

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE DISTRICT OF OREGON

3 FEREYDUN TABAIAN and AHMAD)
4 ASHRAFZADEH,)
5 Plaintiffs,) No. 3:18-cv-00326-HZ
6 vs.) June 20, 2019
7 INTEL CORPORATION,) Portland, Oregon
8 Defendant.)

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15 **CLAIM CONSTRUCTION HEARING**

16 TRANSCRIPT OF PROCEEDINGS

17 BEFORE THE HONORABLE MARCO A. HERNANDEZ

18 UNITED STATES DISTRICT COURT JUDGE
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APPEARANCES

FOR THE PLAINTIFF:

Jeffrey S. Love
James G. DeRouin
Klarquist Sparkman LLP
121 S. W. Salmon Street
Suite 1600
Portland, OR 97204

Howard L. Close
Ronald L. Flack, Jr.
Wright Close & Barger, LLP
One Riverway
Suite 2200
Houston, TX 77057

FOR THE DEFENDANT:

Renee E. Rothauge
Markowitz Herbold PC
1211 S. W. Fifth Avenue
Suite 3000
Portland, OR 97204-3730

Michael J. Summersgill
Jordan L. Hirsch
Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109

Grant K. Rowan
Todd C. Zubler
Wilmer Cutler Pickering Hale and Dorr LLP
1875 Pennsylvania Ave NW
Washington, DC 20006

ALSO PRESENT:

Thomas Lee, litigation support
James Gripp, litigation support
Mashood Rassam, Intel counsel
Kimberly Schmitt, Intel attorney
Luke Motley, IV, attorney
James Geringer, attorney

COURT REPORTER:

Nancy M. Walker, CSR, RMR, CRR
United States District Courthouse
1000 S. W. Third Avenue, Room 301
Portland, OR 97204
(503) 326-8186

1 P R O C E E D I N G S

2 THE COURT: Welcome back. Have a seat.

3 THE CLERK: Your Honor, we're here today for a claim
4 construction hearing in the matter of Tabaian, et al. versus
5 Intel Corporation, Case No. 18-cv-326.

6 Counsel, please state your appearances for the
7 record, starting with the plaintiff.

8 MR. JEFFREY LOVE: Jeff Love for plaintiffs,
9 Klarquist Sparkman.

10 MR. DeROUIN: James DeRouin, Klarquist Sparkman, for
11 plaintiffs.

12 MR. FLACK: Ronald Flack, Wright Close & Barger, for
13 plaintiffs.

14 MR. SUMMERSGILL: Your Honor, Michael Summersgill,
15 Todd Zubler, and Jordan Hirsch from Wilmer Hale on behalf of
16 Intel, and Renee Rothauge on behalf of Intel.

17 THE COURT: Welcome.

18 MR. SUMMERSGILL: And, Your Honor, as we submitted to
19 you, we've worked out with the parties a proposed order of the
20 terms and who will be arguing first on each one. And I
21 believe you had indicated you're okay with that approach?

22 THE COURT: Absolutely.

23 MR. SUMMERSGILL: Okay.

24 THE COURT: Whatever makes it easier and more
25 efficient.

1 MR. SUMMERSGILL: Okay.

2 THE COURT: So just tell me which direction you want
3 to go. I have my outline here. Let me know.

4 MR. SUMMERSGILL: I think we're going to start with
5 the "droop output" term and move on from there, and the
6 plaintiffs will start with "droop output."

7 MR. JEFFREY LOVE: Yes.

8 MR. SUMMERSGILL: And you get to learn more about
9 voltage regulators.

10 THE COURT: I don't know if my brain can take any
11 more.

12 So be it. Let's go.

13 MR. JEFFREY LOVE: Also, with respect to arguing the
14 terms, the parties conferred. And both parties, as I
15 understand it, would like to have different attorneys argue
16 different terms, but just one attorney for the one term, if
17 that's okay with you.

18 THE COURT: That's fine. Sure.

19 MR. JEFFREY LOVE: Your Honor, Jeff Love for
20 plaintiffs.

21 The first term that we're going to argue is "droop
22 outputs." The focus -- actually, all of the terms appear in
23 Claim 1, so the focus is going to be primarily on Claim 1.
24 But there are a few other terms that are asserted, and the
25 same terms appear in some of the other claims as well, which

1 can be important to look at the other claims to just
2 understand any claim term, including "droop outputs."

3 As was indicated at the tutorial yesterday and in the
4 briefing -- the parties have briefed it at some length --
5 there's just a fundamental difference in the approach to claim
6 construction here, where essentially Intel is arguing that the
7 plaintiffs are seeking broad constructions for Claim 1 that
8 aren't limited to the embodiments that are disclosed, or the
9 primary embodiment, at least, that's disclosed in the patent.

10 And the plaintiffs are arguing that Intel is unfairly
11 arguing for narrow claim terms that are limited to just the
12 embodiment in Figure 1 and they're trying to essentially
13 import limitations not just from the specification, which is
14 the entire patent, essentially, but also from dependent claims
15 into Claim 1, and that that -- so a fundamental issue is, you
16 know, how is this Court going to be construing these claims?
17 What is the approach going to be: to tie it to the preferred
18 embodiment or to give Claim 1 broader scope?

19 And in that regard, I want to start by talking about,
20 you know, some of the statutes that govern claim construction
21 and the case law governing claim construction. And this will
22 apply to all the claim terms, but including "droop outputs."

23 First off, claim drafting is an art. Claims
24 typically are drafted not by the inventors, but by patent
25 attorneys. So the inventors have an invention in mind. They

1 come to the patent attorneys. And the patent attorney's job
2 is to sort of separate the wheat from the chaff in certain
3 respects, to try to identify what is the invention, the
4 essence of the invention, so that the patent attorney can help
5 the inventors by claiming it broadly, even though the
6 inventors might have in mind primarily the best way of doing
7 it, so a very specific way of doing it.

8 And a lot of times, you know, that's something that
9 the inventors don't even understand, that there is this
10 minutiae of patent law about how you go about drafting the
11 claims. And the minutiae of patent law relates, in part, to
12 the statutes that govern how you draft claims, which one
13 needs, to some extent, to be a patent lawyer to understand
14 well.

15 So there is a Section 112, 35 USC Section 112, that
16 relates directly to how claims are construed. And, in
17 particular, 112(f) is a specific provision that allows patent
18 prosecutors, as they're called, to limit claim elements to
19 particular embodiments that are described in the
20 specification. And there's a general way of triggering that.
21 It's generally by having "means for" type language in claims.

22 And one of the issues in claim construction is
23 whether any of the parties are going to contend that any of
24 the claim limitations are subject to Section 112 limitations
25 or analysis. And here Intel has not contended that for any of

1 the claim limitations, so they are not arguing that the
2 special statutory provision that would limit a claim element
3 to just the embodiments described in the specification and
4 their equivalents applies to any of the terms at issue.

5 Another tool that the patent statutes provide for is
6 a -- is there are statutes that allow for dependent claims.
7 This allows patent prosecutors to layer the claims with
8 multiple different breadths. And the drafters did that here,
9 and the Patent Office accepted that, not all of them, but many
10 of them.

11 So, for example, we have submitted into evidence with
12 our claim construction brief the original 67, I believe it
13 was, claims that the applicants submitted with their patent
14 application. And the Patent Office said that, well, some of
15 these claims are to different inventions, related, but
16 different. And so they said, "We're not going to give you all
17 these claims."

18 And so what was done is an election was made during
19 the file history where the plaintiffs chose the first -- I
20 believe it was 37, possibly 36 claims. And of those 36
21 claims, there's only one independent claim.

22 And the patent statutes, Section 112 in particular,
23 addresses an independent claim and dependent claims. And I've
24 got Section 112 here that I'd like to put up on the screen,
25 just to show you what it says about that.

1 So, first, Section 112, 35 USC Section 112, talks
2 about the specification. And, in general, pretty much
3 everything in the patent that issues is the specification;
4 although there's different parts of it, obviously, the claims,
5 the figures, the rest of it.

6 And then it says the specification -- one thing it
7 says: It shall set forth the best mode contemplated by the
8 inventor or joint inventor of carrying out the invention.

9 Now, one of the things Intel is essentially arguing
10 is, look, you know, you look at the patent, and it talks a lot
11 about this one particular way of carrying out the invention.
12 True, but that's because Section 112 requires the patent to
13 talk about at least one particular way of carrying out the
14 invention. It's supposed to be the way that's considered
15 best, but it doesn't mean at all that the patent is limited to
16 that.

17 Then Section 112 goes on to say that the
18 specification shall conclude with one or more claims. So it
19 contemplates a variety of claims. And then at section (c) it
20 says that a claim may be written in independent or in
21 dependent or multiple dependent form. And a claim in
22 dependent form shall contain a reference to the claim
23 previously set forth and then specify a further limitation.

24 And then it directly addresses how such claims are to
25 be construed. A claim in dependent form shall be construed to

1 incorporate by reference all the limitations of the claim to
2 which it refers.

3 So what we have here is one independent claim,
4 Claim 1, and then about 35, maybe 36 dependent claims that add
5 additional -- sometimes circuitry to it. And so if you
6 remember yesterday, you saw all these details in Figure 1, and
7 the plaintiffs' expert is saying, yeah, but the details in
8 Figure 1 aren't all in Claim 1; only some of them are. Most
9 of those details are added in dependent claims.

10 And then it also has here -- 112(f) talks about an
11 element in a claim may be expressed as a means or step for
12 performing a specified function without reciting the
13 structure, and such claim shall be construed to cover the
14 corresponding structure described in the specification and
15 equivalents thereof.

16 So that's the specific statutory provision that
17 Congress provided for claim drafters to limit their claims, or
18 at least an element of the claim, to just what is described in
19 the specification. It's supposed to make it easy for a patent
20 applicant who just wants a narrow claim to the best mode
21 essentially of what he invented or the best modes that he's
22 going to describe.

23 And that's not at issue here, because Intel doesn't
24 contend and plaintiffs don't contend that any claim element is
25 subject to 112(f) rules regarding claim construction.

1 Then Section 113 talks about the drawings. And there
2 was a lot of focus yesterday -- and I expect today -- on
3 Figure 1, to some extent Figure 2. There are only two
4 drawings and yet there's 36, 37 claims. Why is that? I want
5 to address that.

6 So it says -- Section 113 says the applicant shall
7 furnish a drawing where necessary, and then the director may
8 require its submission and so forth. Well, that seems pretty
9 optional. Well, that's pretty optional.

10 But the Patent Office issued regulations. So this is
11 37 CFR Section 1.83. And this is what the director has to say
12 about it: The drawing in a nonprovisional application --
13 which is a typical patent application that results in a
14 patent -- must show every feature of the invention specified
15 in the claims.

16 So why is it that Figure 1 is larded, as I'll say,
17 with, you know -- with all these detailed circuitry where,
18 from the plaintiffs' standpoint, a lot of those details only
19 come up in dependent claims. It's because all 36
20 claims -- indeed, this was filed -- Figure 1 was filed with
21 the original application which had 67 claims. And the
22 obligation of the people making those drawings was to -- under
23 the Patent Office rules, is to show every feature in the
24 claims, plural. So it's the smorgasbord. Figure 1, Figure 2
25 are designed to show all the circuit elements in all the

1 claims.

2 Now, one could, if one had more money and it wanted
3 to take the time, draw a separate figure for each of the
4 original 67 claims. There's some cost involved in that. A
5 lot of times, you know, people -- anyway, cost is a factor
6 with applications.

7 So what's the minimum? The minimum is get one figure
8 in there -- in our case, two -- that covers all the features
9 and then rely on the Court to understand that just because
10 details are in Figure 1 doesn't mean it's in the broadest
11 claim.

12 I think that a lot of the -- a lot of the differences
13 between the parties as to how these claims should be construed
14 relate to those issues. To some extent, you know, Intel's
15 arguments boil down to arguing that the claims as
16 drafted -- that is, if you just construe them broadly the way
17 plaintiffs say -- that that's too broad and, you know, that
18 there's not enough support in the patent to, you know, cover
19 the breadth, you know, that the plaintiffs are asking the
20 Court to provide for Claim 1.

21 That is not a claim construction issue. So Section
22 112 that I just showed you has certain provisions requiring
23 support in the patent, and there's all sorts of rules and
24 whatnot about that.

25 Plaintiffs, in their invalidity contentions, made

1 only one narrow Section 112 argument about Claim 1 not having
2 support in the specification. It had to do with the word
3 "droop outputs." And the idea is that the claim has "droop
4 outputs" in the plural; and they say the patent, in particular
5 pointing to Figure 1, only shows one droop output. They say
6 that's a Section 112 issue.

7 That's an issue for the jury down the road or, if the
8 Court can decide it on clear and convincing evidence on
9 summary judgment, then possibly then, but that's not now.

10 Now, one of the -- you know, the final legal point I
11 want to make is I want to refer the Court, once again, to a
12 case that we've referenced several times in our briefing,
13 because it's a recent case by the Federal Circuit involving
14 Intel and involving electrical devices, where the District
15 Court in this case was asked by Intel to do what this Court is
16 being asked to do, which is to construe the claims narrowly in
17 order to -- to read on the main embodiment discussed in the
18 specification. The District Court did that. The District
19 Court was reversed. And the reasoning is directly relevant to
20 what I've just been describing about Section 112.

21 So the case is *Continental Circuits v. Intel*
22 *Corporation*, 915 F.3d 788. And the opinion -- which if
23 there's one case, you know, the Court were to focus on
24 afterwards, I would say this is it, because the opinion
25 touches on many of the issues important here.

1 So the key issue, as described by the Court, is that
2 all the asserted claims include claim limitations, which the
3 District Court construed together as Category 1 terms, and
4 their construction depends on resolving whether they should be
5 limited to a repeated desmear process.

6 Now, we don't need to know what that is. All we know
7 is that the claims didn't literally require it. But the
8 argument was that because of the prominence that that process
9 was given in two places, both in the specification and also by
10 inventors, in statements by the inventors -- and here, again,
11 we have Intel relying on certain statements by some of the
12 inventors -- that the Court should limit it that way, even
13 though there is nothing in the claim that would support that.

14 So in particular when it comes to the evidence
15 of -- of it requiring that Intel in this case relied on two
16 statements of an expert that was submitted, the expert
17 declaring that the patent clearly describes a two-etching
18 process, documents produced by the inventor stating, quote, We
19 use a double pass desmear to achieve the tooth structure, end
20 quote, the thing about such statements is what do the
21 inventors really have in mind? They have in mind the best
22 mode of doing it.

23 They might not even see the claims, you know, until
24 the application is filed. That's something the patent lawyer
25 does. They come to the patent lawyer and say, "This is the

1 best way of doing it."

2 And so you get these statements. That's extrinsic
3 evidence, as this Court will point out, not intrinsic
4 evidence. Extrinsic evidence, under the Fed Circuit rules, is
5 less important to claim construction, as a general matter,
6 than intrinsic evidence, which is the claims themselves, the
7 patent itself.

8 And so the only issue on appeal was this claim
9 construction issue. And so the first thing the Court did in
10 its analysis is it notes that none of the asserted claims
11 actually recite a repeated desmear process. Thus, at least
12 based on the plain language, the claims are not limited to a
13 repeated desmear process.

14 That first step is no small step. And we have that
15 here with almost every claim term. So you've got "droop
16 outputs." It doesn't refer at all to a droop function. And,
17 as you know, as was discussed yesterday, "droop" has a broader
18 meaning of "droop loss," that can relate to any loss of
19 voltage or spike in voltage.

20 And then the patent -- the opinion goes into whether
21 there is something in the patent that would clearly limit the
22 claims, even though they're broad on their terms, to just some
23 narrow embodiment. And what it emphasizes is that when you
24 actually go through the patent process, through the patent,
25 you just see when they refer to the double desmear process,

1 whatever that is, they do so by saying, One technique is this.
2 It can be can done this way.

3 Even just looking through Intel's brief, typically on
4 every term that they argue for -- and "droop outputs" being
5 one -- you know, they will say something like, "The patent
6 says it must be done to do this," and then they quote
7 sometimes in the same brief the patent that they're relying
8 on, and it says "may," not "must." And so you'll see in our
9 brief, you know, "may" does not mean "must."

10 And patent drafters, they're trained to be careful in
11 that respect. They are trained to make it clear, when they
12 want to have, you know, 67 claims, 37 claims, to be clear that
13 when they're describing the best way of doing it, you make
14 sure it's optional, so you use the word "may" for a reason,
15 you know. And the reason is so that at moments like this, the
16 Court will know that it is not required.

17 And that's what the Federal Circuit was relying on
18 here, was just that kind of language. So it points then, too,
19 with respect -- it says, for example, you know, this or that.
20 That doesn't mean "must." It's not a clear statement, you
21 know, clearly setting forth a definition of some disputed
22 claim term, other than its plain and ordinary meaning, which
23 would be a broad meaning, typically. And then it goes on
24 to -- to make that point.

25 But then you also have this. You know, you have the

1 fact that the patent overwhelmingly focuses on one embodiment.
2 Now -- the embodiment of Figure 1, you know, and also as shown
3 in Figure 2, which is unusual, to have patents that only focus
4 on one embodiment. And what's the minimum for a patent?
5 You've got to do one best mode.

6 In fact, though, the patent does have other
7 embodiments in it, just not in the figures. But in the text
8 it talks about other ways of doing that, and our brief refers
9 to that.

10 And, also, the patent incorporates the provisional
11 application, so it's incorporated into the patent by
12 reference. It's in the record. It includes 15 figures, which
13 I think the first six are just prior art voltage regulators,
14 so it's after that, starting with Figure 7 or 8. So Figure 8
15 was shown during the tutorial yesterday. It's the hand-drawn
16 thing, you know. So those figures are other embodiments of
17 doing it.

18 And so, for example, some of those embodiments, you
19 know, just have a sense output and not a droop output
20 or -- and when they're doing the sense output, they don't have
21 any temperature input. So, you know, there are just
22 alternatives that are talked about in the provisional
23 application.

24 But the patent itself has got the one main embodiment
25 shown in Figure 1 and Figure 2. And when I say "the patent

1 itself," I just mean the actual document. I mean, it does
2 incorporate the provisional by reference, so that is part of
3 the patent itself in a way.

4 And what the Federal Circuit in this *Intel* case said
5 is that the Court has expressly rejected the contention that
6 if a patent describes only a single embodiment, the claims of
7 the patent must be construed as being limited to that
8 embodiment. And then it cites another Federal Circuit case to
9 the same point.

10 And when it went through, you know, some of the other
11 evidence, like the expert declarations -- you know, there can
12 be a lot of evidence. Like here, they rely on the inventor
13 testimony of inventors who haven't looked at the patent for
14 years -- you know, the patent was 10 years ago -- and who,
15 themselves, the two inventors who are co-inventors, who are
16 not parties -- there's four inventors on the patent. Two of
17 them are plaintiffs in this case. Two are not. They live in
18 England. So Intel went over to England and deposed them, and
19 then they put in some of the select transcripts of that into
20 the record here. But neither of them had read the patent
21 recently, and both of them said that it's Ahmad Ashrafzadeh
22 who was the expert in this field; they were assisting him.

23 So that kind of testimony -- well, as the Federal
24 Circuit said in this case, "Generally we have viewed extrinsic
25 evidence such as that as less reliable than intrinsic

1 evidence."

2 So the inventors talked about the two passes through
3 the desmear process. However --

4 THE COURT REPORTER: Counsel, when you read, I'll ask
5 you to slow down.

6 MR. LOVE: So the Court says that the inventors
7 talked about the two passes through the desmear -- that's
8 d-e-s-m-e-a-r -- process, but those statements reflect use of
9 the preferred embodiment that is the best mode or the best way
10 of doing it. And they give no indication that they have any
11 limiting effect on the claims themselves.

12 And so as we point out in our brief, if you go
13 actually and look at the testimony that Intel sometimes relies
14 on with respect to the inventors, often they're talking about
15 Figure 1, not Claim 1, or just about the invention as they
16 understood it, not Claim 1.

17 So with that as background, I would like to address
18 the issue of droop and, in particular, the droop outputs.

19 So as you recall from yesterday, these are figures
20 that were presented yesterday during the tutorial. Here's
21 Figure 1 in the sort of a block format that has all the inner
22 circuitry. But if you take out the inner circuitry and you're
23 talking about droop outputs, you're talking about circuit
24 blocks that are discussed in Figure 1 and then an interface
25 between the calibration control circuit and the regulator

1 circuit block, where one of the interfaces is going to be the
2 droop outputs. But none of that internal circuitry is
3 referred to in Claim 1 that essentially feeds Intel's proposed
4 claim construction for "droop outputs."

5 And let me clarify what the parties' two proposals
6 are, just to refresh your recollection. So plaintiffs'
7 proposed construction for "droop outputs" is "outputs of the
8 calibration control circuit used to adjust voltage in
9 circuitry" -- so very broad, you know, any adjustment to the
10 voltage in the circuitry -- but then "in a system that
11 includes a droop function that can lower output voltage based
12 on output current."

13 So we acknowledge that the patent does talk about
14 systems that have a droop function, but our point is that
15 Claim 1 doesn't limit the droop output to -- to an adjustment
16 to that droop function.

17 Now, droop function, you may remember yesterday from
18 the tutorial, it often is graphed as a line where, as current
19 raises, as current gets higher, the voltage gets -- is forced
20 lower and vice versa. So it can be sort of a straight line.

21 And there's two types of adjustments, at least two
22 types of adjustments that can be made to such a simple
23 formula. One of them is, you know, you can change the set
24 point. So the line may have the same angle, but you can move
25 it up or down.

1 So you saw they would have, for example, maybe 2
2 volts would be the desired, the midpoint, 1 volt is the min,
3 you know, 3 volts is the high. So you're going to have a line
4 in between there that's going to be your load line. Well, you
5 can move that up or down. You can also change the angle. So
6 there are adjustments that can be made to the droop function.
7 That's not discussed in Claim 1.

8 And what Intel's proposed construction is is "outputs
9 of the calibration control circuit used to adjust the droop
10 functions; i.e., the function that automatically lowers the
11 output voltage based on the output current." And they
12 explained in their briefs it would also automatically raise it
13 at times, you know, depending. It's a mathematical function.

14 And our point is, look, there's a lot of things going
15 on with circuitry that affects the actual output voltage, and
16 that droop outputs, as discussed in the patent -- it talks
17 about droop outputs achieving a number of different goals.
18 Some of those are discussed in some of the dependent claims,
19 and using calibration data to do it. And the calibration
20 data, the data that's stored in nonvolatile memory, is
21 discussed in dependent claims. And it's not simply to adjust
22 the set point of a droop function or to adjust the slope of a
23 droop function. And so that's why, primarily, we argue that
24 "droop outputs" should be construed more broadly.

25 And, in particular, I'd like to point out a few

1 places in the patent -- Let me just say that claim
2 construction, there's a lot of things that are interesting to
3 point to in claim construction. So they've got some inventor
4 testimony from London, people who hadn't looked at the patent
5 for a decade maybe. You know, there's dictionary definitions,
6 also extrinsic evidence. There's the file history. But
7 overwhelmingly, claim construction is based on reviewing the
8 patent. So, to me, it's instructive that the patent's title
9 is "Droop Loss Compensation." It doesn't say "droop
10 function."

11 And, you know, one of the things that patent lawyers
12 do when they're going through a patent, they just go through
13 for where is the term used and how is it used?

14 So here you do have -- let's see if I can manage to
15 actually work this machine. Perfect.

16 So here you do have the one reference to "droop
17 function" in the patent, and it's in something called
18 "Background of the Invention." Plaintiffs are not -- so
19 Background of the Invention is an area where typically you
20 talk about what's already known in the prior art and then what
21 are the problems with it, what are the things you're going to
22 try to solve or whatever. But droop function was known in the
23 prior art, and so -- so the patent acknowledges that. The
24 droop function is used in a power supply to do, you know, this
25 or that.

1 Okay. You don't see a reference to "droop function"
2 outside of the Background of the Invention. You see a
3 reference to "droop" or to "drop loss," which, as you heard
4 the other day, that's a broader concept and can have to do
5 with any drop, unintended or intended, in voltage or a spike
6 in voltage, and about the adjustments that are going to be
7 made to get it back to the ideal voltage or to at least within
8 an acceptable range.

9 So you could have, for example, a microprocessor
10 that's got a voltage regulator that implements a droop
11 function, but it could also have a lot of other circuitry and
12 processors that are designed to -- to optimize voltage
13 regulation in other ways. So the actual output of the voltage
14 can be the result of a number of different operations within a
15 complex microprocessor.

16 So here you have, you know, some of the references to
17 droop that you find throughout the patent. So this is column
18 3, and it talks about -- notice it's talking about specific
19 embodiments. It doesn't say that the invention has to have.
20 It hardly ever says it has to have any of these particular
21 things. These are options.

22 So in another embodiment the adjustable droop
23 amplifier -- so this is talking about an embodiment with a
24 droop amplifier that's not mentioned in Claim 1 -- may be
25 adjusted to compensate for regulator circuit variations.

1 So, again, what is this adjustment that the droop
2 output is doing, what's its purpose? Well, its purpose
3 doesn't have to be related to the droop function. It can be
4 related to variations in the manufacturing of these chips,
5 where they're all a little different. And if it's a
6 microprocessor, that's not good, because little differences
7 can be a big problem. And so the point of the calibration
8 data that's being used to feed these droop outputs is to make
9 adjustments to compensate among other -- one of the
10 things -- again, optional, "may" -- compensate for regulator
11 circuit variation.

12 Then notice here in column 3, about line 63: The
13 droop output may be adjusted until the input load voltage
14 meets the load operation specifications, a very broad goal.

15 I mean, the point of going through these different
16 objectives that you can achieve with a droop output and with
17 the calibration data is that by having a dedicated processor
18 in the calibration control circuit and dedicated data designed
19 for calibration and then outputs designed to make adjustments
20 to the voltage, you can adjust the voltage to achieve a lot of
21 goals. And so it broadly refers to "load operation
22 specifications."

23 And then, again, a patent drafter's art to help a
24 judge in this situation know whether a particular embodiment
25 has to be incorporated into every claim for some reason is to

1 say, well, in this embodiment, any number of steps may be
2 omitted or performed in any technical order. And the patent
3 drafter tries to make clear, when it gives these examples,
4 these are just examples. And so what the patent drafter wants
5 the judges to do, if they're reading their claims, is to focus
6 on the claims and not tie them to just particular examples,
7 unless the patent drafter invokes that Section 112(f)
8 provision by saying, for an element, that it's a means for
9 doing this or for doing that.

10 You know, again, so this is column 5 of the patent,
11 and it refers to calibrating the droop settings, and the power
12 supply may compensate for inaccuracies in the circuit. This
13 calibration provides the power supply with the necessary
14 settings to meet the unique specifications of the load, again,
15 a very broad goal of the droop output, no mention of changing
16 the set point in a droop function or changing the slope of a
17 droop function.

18 Now, of course, if you have a system that has a droop
19 function, any change -- and yet the system also has other
20 circuitry that is making -- that is optimizing voltage for a
21 variety of reasons -- for example, the chip could be
22 overheating, you want to slow things down -- you're going to
23 have a multiple number of factors that lead into what the
24 final output is. So the droop function would be one, but if
25 you've got a big spike or a droop loss and you're going to

1 compensate for that, that's going to be affecting the output
2 as well.

3 And so what this is pointing out is that -- is that
4 the calibration data provides power supply with the necessary
5 settings to power the unique specifications of the load. That
6 is one of the things that the droop output can do is to focus
7 on what are the unique specifications of the load. And the
8 patent talks about different types of load and having a power
9 regulator that can deal with different types of loads and
10 their unique specifications.

11 And as will be shown -- you know, yes, they're going
12 to point out that Figure 1 has the droop output making an
13 adjustment to the droop amplifier. But look at the language
14 that the specification says regarding that. It says "may,"
15 you know, it may do that.

16 Sorry. There we go.

17 It says the calibration control circuit may also
18 adjust the droop amplifier via the droop output. And then it
19 gives other examples, that the droop output may then be
20 adjusted until the input load voltage meets the operation
21 specifications. In other words, Claim 1 is very broad.

22 Now, there can be issues with a very broad claim.
23 One of the issues is if we claimed it too broadly, Intel is
24 going to have prior art, and they're going to have a better
25 chance of invalidating it. Intel has cited -- I think you

1 were a little vexed by our 14 infringement contentions.
2 They've got like thousands, literally, of invalidity
3 combinations that they have in their invalidity contentions.
4 They've got a lot of prior art. What they're going to end up
5 asserting, we don't know, but it will be something. And that
6 will be for a different day when this Court can test whether a
7 claim this broad is valid. But our point today is that it is
8 very broad.

9 And it does talk about -- so the adjustable droop
10 amplifier may be used to adjust the drop loss across the
11 current sense circuit. The adjustment of the amplifier may be
12 used to drive an error circuit. So these are some of the
13 examples that are shown in Figure 1.

14 And then if we get to the --

15 THE COURT: Could I ask you a question about your
16 construction?

17 MR. JEFFREY LOVE: Yes.

18 THE COURT: So I'm having trouble with the way that
19 you are proposing it in that it seems to me that it is missing
20 the word "droop."

21 In other words, in your construction -- "outputs of
22 the calibration control circuit used to adjust voltage in
23 circuitry in a system that includes a droop function" -- well,
24 that would be any output, right? It seems like you're taking
25 out the word "droop."

1 MR. JEFFREY LOVE: Well, in two respects --

2 THE COURT: But am I right? Wouldn't that define any
3 output?

4 MR. JEFFREY LOVE: No.

5 THE COURT: Okay.

6 MR. JEFFREY LOVE: So let me say, in two respects it
7 does not do that.

8 First off, the droop output is an output from
9 something, and Claim 1 says what. It's an output from a
10 calibration control circuit. So you're limited to -- now,
11 that doesn't need to be part of the construction, because it's
12 expressly in the claims.

13 THE COURT: But there's more than one output coming
14 out of the control circuit.

15 MR. JEFFREY LOVE: Right. And what is the other
16 output that the patent talks about? It's a sense output. And
17 what does a sense output do? Well, as was discussed at the
18 tutorial yesterday, it's making an adjustment to the current
19 feedback loop. It's adjusting current, in short.

20 So, yeah, there's an adjustment to voltage and
21 adjustment to current is the simple way of viewing it.

22 THE COURT: Were those the only two outputs coming
23 out of the control unit?

24 MR. JEFFREY LOVE: I believe for Claim 1, yes. I'm
25 going to say yes, and then I'm going to read it real quick to

1 see if there is some peripheral -- those are the two that are
2 controlling power. And I think those are the only two
3 outputs, because there's two outputs and there's two inputs.

4 Yes. In Claim 1, those are the only two outputs that
5 are recited. And one is to regulate voltage; the other is to
6 regulate current, and specifically through the current
7 feedback loop. And the dispute with regard to sense outputs
8 is whether it can regulate that current anywhere along the
9 current feedback loop, or Intel wants it more narrowly to be
10 focused on certain circuits within some embodiments.

11 So when it comes to droop output, it's not anything.
12 It's something from the calibration control circuit that's
13 adjusting voltage. And an adjustment to voltage -- now, first
14 off, the parties agree that when the patent talks about droop,
15 whether it's droop function or droop loss, it goes hand in
16 hand with spike. It's a mirror image. So, yeah, it's an
17 adjustment to voltage up or down.

18 So what you have in the title and in the rest of the
19 patent is focusing on droop loss, meaning any drop in
20 voltage -- any unwanted drop in voltage, you know, that you're
21 going to make adjustments to try to optimize the voltage.
22 That's exactly what the droop output is.

23 Now, there are some dependent claims that will make
24 it more narrow, but Claim 1 is not narrow.

25 So, for example, here in claim -- in column 9, it

1 refers to compensating for the droop loss. That's a general
2 term. And, again, and then -- sorry. That's column 9.
3 Here's Claim 1. It talks about the droop outputs.

4 But then you get -- you get more detail as to what
5 the droop outputs are in some of these what are called
6 dependent claims. So Claim 5 is a dependent claim; and it
7 says the circuit of Claim 1, and then it says some more. And
8 what that means, according to that statute I went over, is
9 everything that's said in Claim 1 plus this additional stuff
10 I'm going to mention right now is what's claimed in Claim 5.

11 And that's where the calibration control circuit
12 adjusts the droop outputs according to the data stored in
13 nonvolatile memory. So it's adding additional limitations
14 there.

15 And then Claim 7 -- 6 and 7 talk about what kind of
16 data can be stored in nonvolatile memory. And, again,
17 Claim 1 -- now, that's going to be a different claim term that
18 we're going to get to, "calibration data," but it bears on
19 what the droop output is. Because one of the things that the
20 droop output can do is to make adjustments according to the
21 data stored in nonvolatile memory, which can be nonvolatile
22 memory data that stores regulator performance parameters,
23 Claim 6, or application specific power curve data.

24 For purposes of construing Claim 1, you look to these
25 dependent claims as examples. So you're going, well, gee,

1 can't that be anything? Well, it can be very broad. Because
2 when you want it narrow, you write a dependent claim that
3 makes it more narrow. That's my point.

4 And so, for example, Claim 11 says the droop output
5 comprises a digital-to-analog converter with registered input
6 and an amplifier buffer. So that's additional information
7 about what it can be, but that means for Claim 1 it doesn't
8 have to be that.

9 And there's other claims and -- other claims that
10 refer to droop or droop output, they bear on how it should be
11 construed in Claim 1, because these are all narrower. So the
12 circuit of Claim 18, but if you go to Claim 18, that's a
13 circuit of Claim 1.

14 So Claim 19 means everything that's in Claim 1, plus
15 what's in Claim 18, where -- and then this has got additional
16 circuitry, and it talks about, you know, controlling the droop
17 output through an external controller or -- and then Claim 26
18 is the one that got talked about yesterday at the tutorial,
19 because a lot of the circuitry that you see in Claim 1 is
20 first recited in Claim 26.

21 So here you have the regulator circuit of Claim 1
22 further comprising, among other things, an adjustable droop
23 amplifier and an error circuit with an error amplifier.

24 Now, plaintiffs' expert in the briefing says that the
25 droop function is accomplished through the error circuit and

1 the error amplifier and the droop amplifier. Well, those
2 aren't in Claim 1. The circuitry that plaintiffs' expert says
3 creates the droop function is first introduced in Claim 26.

4 So that's among the reasons why it's wrong to
5 construe Claim 1, the droop output, as being an adjustment to
6 a droop function, when the circuitry -- because the circuitry
7 that performs the droop function is not recited in Claim 1,
8 Intel's chip doesn't have to have that circuitry. It's first
9 recited in Claim 26, a dependent claim. And we're not
10 asserting Claim 26. We never have.

11 And so Claim 26 is long, because it's adding all that
12 circuitry, and so part of it is up on column 12. It says the
13 adjustable sense amplifier also feeds into the adjustable
14 droop amplifier. And the droop amplifier, you know, drives
15 the error circuit.

16 And so then Claim 29, you've got the calibration
17 control circuit adjusting the adjustable droop amplifier via
18 the droop output.

19 And then 31 is significant, too, because it is -- you
20 know, so 31 is a dependent claim from Claim 26, which depends
21 from Claim 1, so it's basically saying everything in Claim 1
22 and in Claim 26 plus the following: where said adjustable
23 droop amplifier is adjusted to compensate for regulator
24 circuit variations.

25 I mean, that's showing that even in the embodiment in

1 Figure 1 that plaintiffs are referring to, where it has the
2 adjustable droop amplifier and so forth, that the purpose for
3 making the compensation with the droop output, it doesn't have
4 to be to effect the droop function. It can be to compensate
5 for regulator circuit variations, meaning manufacturing
6 variations.

7 For those reasons, we urge the Court to construe
8 "droop outputs" broadly, in accordance with the plain meaning
9 of the language, with the specification, and in view of the
10 claim differentiation principles that the Federal Circuit has
11 established in cases such as the *Intel* case I just talked
12 about.

13 That's what I've got on "droop outputs."

14 THE COURT: Thank you.

15 MR. SUMMERSGILL: Your Honor, Michael Summersgill on
16 behalf of Intel. May I proceed?

17 THE COURT: Please.

18 MR. SUMMERSGILL: Thank you.

19 Now, Your Honor, we just heard Mr. Love's argument
20 about droop output. Before I get into his arguments on droop
21 output, I want to step back and respond to some of the points
22 he made on claim construction generally and on the parties'
23 different approaches to claim construction, because the
24 parties have taken very different approaches here, and I think
25 it's important.

1 So if we could pull up slide 1, what has the Federal
2 Circuit told us that's relevant to the disputes we have here?
3 Well, first, in the *Phillips* case, the Federal Circuit has
4 told us that the claim construction process begins with the
5 words of the claims themselves. So we have to start with the
6 words of the claims, and we have to give meaning to each of
7 the words in the claims.

8 So, for instance, to your question of Mr. Love, we
9 have to give meaning to the word "droop." What does the word
10 "droop" mean? And as I'll get to, we submit that their
11 construction of "droop output" entirely reads out the word
12 "droop."

13 Second, turning to slide 2, the Federal Circuit tells
14 us that you have to look to the specification. In
15 particular -- and, again, this is the *Phillips* case -- it
16 tells us that claim terms are not read in isolation and must
17 instead be read in light of the specification.

18 And, Your Honor, that is particularly true where, as
19 here, with some of the terms, the terms are not terms of art.
20 They're terms that are used in a unique way in the patent. So
21 you have to look to the patent, you look to the claims, you
22 look to the specification to determine what those terms mean.

23 And if we could jump to slide 3, the Court has stated
24 that the specification is always highly relevant to the claim
25 construction analysis. Usually it is dispositive; it is the

1 single best guide to the meaning of a disputed term.

2 So when you're trying to figure out what a term
3 means, you look to the claims and you look to the
4 specification. The specification is the single best guide to
5 the meaning of a disputed term.

6 And if we jump to slide 4, the Federal Circuit also
7 has said you may consider extrinsic evidence. The Court
8 explained -- this is again the *Phillips* case -- that you may
9 look to extrinsic evidence, and it specifically called out
10 inventor testimony as one of the pieces of extrinsic evidence
11 that can be looked to to confirm what's in the claims and in
12 the specification. And there are multiple Federal Circuit
13 cases that have made that point.

14 And so that's what we've tried to do in proposing our
15 claim constructions. We've started with the language of the
16 claims. We then looked to the specification. And, where
17 appropriate and where relevant, we've then pointed to certain
18 of the inventor testimony.

19 And we'll get into this. Mr. Love argued repeatedly
20 that we're trying to limit the claims to embodiments. Not so.
21 And I'll address that. We'll each address that. Mr. Zubler
22 and Mr. Hirsch will address that in the context of their
23 terms. I'll address it for the terms I'm arguing. The point
24 is you have to look to the specification to help determine
25 what the terms mean.

1 Now, the plaintiffs have taken a very different
2 approach. We heard from Mr. Love over and over that the terms
3 are broad, that "droop output" should be broad, all these
4 terms should be broad, Claim 1 is broad. What I didn't hear
5 was what "droop output" really means.

6 And he said that patent attorneys draft patent
7 claims. That's true. But you can't draft patent claims to
8 cover an invention that the inventor didn't invent, and that's
9 what's going on here. They're trying to cover inventions the
10 inventors didn't invent. And in doing that, they've
11 effectively argued that you should ignore the specification
12 with respect to Claim 1.

13 And I think what highlights that point is their slide
14 43 that their expert used yesterday and Mr. Love put on the
15 screen today. They put up Claim 1 of the '944 patent on the
16 left and one of the figures from the patent on the right, and
17 yet they've entirely masked out Figure 1.

18 Basically what they're saying is, Your Honor, when
19 you interpret Claim 1, you should ignore Figure 1. And that
20 is just wrong as a matter of law. That can't be squared with
21 the statements from *Phillips* that we just reviewed, that the
22 specification is highly relevant, always highly relevant.

23 Now, the plaintiffs try to overcome all that by
24 pointing to the *Continental Circuits* case, a case that Intel
25 is involved with and that we are very familiar with. I'm not

1 on the case, but our firm is handling the case. We're very
2 familiar with the case.

3 Now, Mr. Love spent 10 of his 40 minutes on the
4 *Continental Circuits* case, and I think that is telling,
5 because that case has no bearing here. It's a case that
6 involves different patents, different claims, an entirely
7 different type of claim -- a process claim -- and entirely
8 different issues.

9 And Mr. Love showed you multiple sections of the
10 *Continental Circuits* case, but I want to show you a piece of
11 it that he didn't show you.

12 If we could pull up slide 6.

13 *Continental Circuits*, just like *Phillips*, says you
14 have to look to the specification to figure out what terms
15 mean. Claims aren't read in isolation. You look to the
16 specification. So what *Continental Circuits* said is the
17 specification is always highly relevant to the claim
18 construction analysis. Usually, it is dispositive.

19 So *Continental Circuits* didn't overrule or change the
20 many years of Federal Circuit precedent that we just
21 discussed. It didn't change *Phillips*. You can't ignore the
22 specification in construing claim terms; and to do so, we
23 submit, would be legal error.

24 So with that, let me turn to the term "droop output."

25 And if we could pull up slide 2, please.

1 So the term "droop output," it's a requirement in all
2 the claims, because it's in Claim 1, and the rest of the
3 claims are dependent.

4 Our proposed instruction of the term "droop output"
5 is "outputs of the calibration control circuit used to adjust
6 the droop function; i.e., the function that automatically
7 lowers the output voltage based on the output current."

8 Plaintiffs', in contrast, are construing the term so
9 that it would be -- it would cover adjustments to voltage in a
10 system that includes a droop function.

11 Now, it's important to note, while this slide is
12 still on the screen, both parties include droop function in
13 their construction. So both parties agree that a droop
14 function is required.

15 If we could jump to the next slide, slide 3.

16 So the the parties' primary dispute regarding the
17 term "droop output" is whether it should be construed as
18 outputs that adjust the droop function or whether it should be
19 construed as any outputs that make any adjustments to voltage
20 merely in a system that includes a droop function, even if
21 those outputs have nothing at all to do with droop. Their
22 system would cover outputs that make adjustments that have
23 nothing at all to do with droop. And we'd submit to you, Your
24 Honor, that that is wrong. And here's why.

25 So as *Phillips* tells us -- We start with the term

1 "droop outputs," and that is not a term of art. So as
2 *Phillips* tells us, we have to look to the patent to see how
3 it's used. And, again, we heard from Mr. Love they believe
4 it's a very broad term, but we didn't hear much about what it
5 actually means.

6 So where do we go to determine that? Well, let's
7 start with the claims. We have that on slide 4. The plain
8 language of the claims indicates that droop outputs are
9 outputs that relate to droop, not just any adjustment to
10 voltage. The claim term itself is "droop outputs," not merely
11 "outputs" or "voltage outputs."

12 So the term itself tells us that these are outputs
13 that relate to droop. And as I'll discuss when I walk through
14 the specification, all of the references to "droop" in the
15 patent refer to a droop function. And so the claims tell us
16 that a droop output is an output that adjusts a droop
17 function.

18 So then let me turn to the specification and to
19 slide 5. The specification confirms that the droop output is
20 an output that adjusts a droop function.

21 Now, I'll ask Mr. Lee -- we've got a slide on the
22 screen, but I think it will be easier if we actually pull up
23 column 1 of the patent.

24 When you walk through the patent -- and, again, I'm
25 going to try to walk through this relatively slowly.

1 Hemingway didn't write this patent, unfortunately, so it is
2 pretty dense; and it took me a long time and a lot of
3 explanation from Mr. Rowan before I understood it.

4 But if you look first at the Background of the
5 Invention, this is column 1 of the patent, and line 36 -- I'll
6 ask Mr. Lee to highlight the sentence beginning at line 36.
7 Here at the top of this paragraph is the first reference to
8 droop function. It says, "The droop function is used in a
9 power supply to automatically lower the output voltage based
10 on the output current." Okay. So that's the first reference
11 to droop function.

12 Now, Mr. Love said that there are no other references
13 to droop function. Well, that's just not accurate.

14 Go to the very -- skip one sentence. Go to the next
15 sentence that begins with "The droop." "The droop is set by
16 the manufacturer of a processor."

17 Now, you don't have to be technical to understand
18 what that's referring to. That antecedent basis is English.
19 "The droop" refers to the droop function. The patent uses the
20 term "droop" as shorthand for the droop function. And how do
21 you know that's correct? Because it goes on to say that that
22 droop is set as a function of the output current. Droop
23 function is something that is set based on output current.

24 Now, their argument that droop, in the context of
25 this patent, can be something that is just a drop in voltage,

1 that's -- out in the industry, engineers, as Mr. Rowan pointed
2 out, use the term to refer sometimes to a drop in voltage and
3 sometimes they use it to refer to a droop function. But a
4 simple drop in voltage that can happen on the back end of a
5 voltage regulator, you can't set that. That's not a droop
6 function.

7 What the patent is talking about here when it uses
8 "droop" is it's referring to a droop function. And how do you
9 know that? Go to the next sentence. The sentence we just
10 read said the droop is set. And then the next sentence says,
11 "Thus, the droop function accuracy is directly related to the
12 current sensing accuracy." So it's just said the droop is the
13 droop function.

14 And that continues down this column. If you go now
15 to, same column, lines 44 to 46 and -- I'm sorry, line 45:
16 "There are many ways to set the droop." Again, it's referring
17 to the droop function by using the term "droop" as shorthand.

18 If we jump down to column 1, lines 53 to 55, the
19 patent explains that "Historically, setting the droop
20 accurately has also been a major problem due to inadequacies
21 in current sensing." So "setting the droop," that's referring
22 to the droop function, because you set a droop function.

23 And how do we know for certain that all of those
24 references to "droop" are referring to a droop function?
25 Because they're all referring to setting the droop based on

1 current. That's what a droop function is.

2 So the patent consistently refers to "droop" as
3 shorthand for a droop function. And I'll get to this -- and
4 Mr. Rowan got into it somewhat yesterday -- but the patent
5 also uses terms like "adjust the droop loss" and "droop loss
6 compensation." That's also referring to the droop function.
7 Adjusting the droop loss is what you do with the droop
8 function. You have a droop loss because of fluctuations in
9 current and voltage. That droop loss can send the voltage
10 outside of a processor's specified range.

11 And Mr. Rowan showed this figure yesterday. It can
12 drop outside the range, and that's a problem. So in a droop
13 function, you adjust the droop loss up so it remains in the
14 range even when you drop in voltage. So the patent
15 consistently, across the board, refers -- uses the term
16 "droop" as shorthand for a droop function.

17 So then if we turn to slide 6, please, the patent
18 specification then explains that "The present invention
19 addresses the problem of droop inaccuracies." So what does
20 that mean? It means that the invention is designed to address
21 inaccuracies in the droop function.

22 And how do we know this? We can look at the specific
23 language. It talks about -- that we have on column 6, and
24 this is from -- I'm sorry, slide 6, column 1, line 66, to
25 column 2, line 7. It talks about the fact that circuits

1 involved in current sensing have positive temperature
2 coefficients, meaning they change with respect to temperature.
3 "The resistance of the circuit increases as the temperature
4 increases. This variation results in erroneous measurements
5 of the current over temperature variations causing further
6 droop inaccuracies."

7 So, again, a droop function is setting voltage based
8 on current. So if your measurement of current is inaccurate,
9 your droop function will be inaccurate. So this invention,
10 the invention that they set out to claim here, is something
11 that's designed to address inaccuracies in current sensing and
12 inaccuracies in the droop function. And this goes on to say
13 that they're providing a solution to that problem.

14 And if we jump to slide 7, the solution that they
15 propose is this calibration control circuit "that senses and
16 regulates both a current sensing circuit and the droop in a
17 power regulator over a range of temperatures." Again, "the
18 droop" is shorthand for the droop function.

19 They concede that voltage feedbacks -- voltage
20 feedback loops were known. If all we were talking -- a
21 voltage feedback loop, you know, senses a drop in voltage and
22 then corrects it. If all we were talking about was a voltage
23 feedback loop, they would have said "correcting for voltage
24 feedback loops"; and even -- even they, I don't think, would
25 have argued that that was new. But this doesn't say that.

1 This talks about correcting for inaccuracies in the droop.

2 Now, so if we jump to slide 8, this patent
3 specification then explains how the invention, the alleged
4 invention, accomplishes this. It explains that the
5 calibration control circuit uses the droop outputs to regulate
6 the droop function over a range of temperatures.
7 Specifically -- and we've got this on the screen, slide 8,
8 column 9, lines 25 to 27. It says, "The calibration control
9 circuit controls the adjustments to the droop amplifier via
10 the droop output."

11 And then the patent explains -- and this is at column
12 8, lines 64 to 66 -- "This adjustable droop amplifier may be
13 used to adjust the droop loss across the current sense
14 circuit."

15 Now, again, as Mr. Rowan explained yesterday,
16 adjusting the droop loss refers to the droop function, because
17 that's what you do with the droop function. So the patent
18 explains that the droop amplifier, in conjunction with the
19 error circuit, implements the droop function and that the
20 droop outputs are used to adjust the droop amplifier.
21 Therefore, the droop outputs are used to adjust the droop
22 function.

23 And, Your Honor, the plaintiffs have made, I think,
24 two important concessions in their briefs that highlight this.

25 So if we could jump to slide 10, the plaintiffs,

1 intentionally or not, conceded in their opening brief that the
2 patent does use "droop" as shorthand for droop function.

3 So at page 6 of their opening brief, the plaintiffs
4 state, "There are many ways to implement and adjust a droop
5 function that can lower output voltage based on output
6 current."

7 And what the patent actually says in the portion that
8 they cite -- they don't have it here, but it says, "There are
9 many ways to set the droop based on the measured current." So
10 even they are reading the term "the droop" to refer to the
11 droop function.

12 Second, if we jump to the next slide, which I believe
13 should be slide 11, they concede in their opening brief that
14 the droop amplifier, in conjunction with the error circuit, is
15 what implements the droop function.

16 They say that right here: "The function of
17 automatically lowering the output voltage based on the output
18 current" --

19 THE COURT: Slow down.

20 MR. SUMMERSGILL: Sorry. I apologize.

21 They say that "The function of automatically lowering
22 the output voltage based on the output current is implemented
23 by the adjustable droop amplifier in conjunction with the
24 error circuit."

25 So that's saying the adjustable droop amplifier and

1 the error circuit are what implement the droop function.

2 So the specification's unequivocal statement that
3 droop outputs are used to adjust the droop amplifier, which
4 even plaintiffs concede implements the droop function, makes
5 clear that droop outputs are used to adjust the droop
6 function.

7 And, Your Honor, that's consistent with what's in the
8 figures. If we could turn to slide 12, this is Figure 1, the
9 figure that the plaintiffs masked out in their presentation.
10 And what it shows is the calibration control circuit in blue
11 sending a droop output in orange up to the adjustable droop
12 amplifier, which, in conjunction with the error circuit,
13 implements the droop function.

14 Now, to the extent that there was any confusion about
15 this -- let's turn to slide 14, please -- this interpretation
16 is confirmed by one of the inventors of the patent, one of
17 the -- importantly, one of the non-plaintiff inventors. Named
18 inventor Ali Hejazi testified that the droop outputs are used
19 to adjust the droop function. This is his testimony.

20 "Question: The droop output is the output that is
21 used to adjust the droop functions; is that right?

22 "Answer: Yes."

23 Now, they're trying to run hard from that testimony
24 now, but it's important to note, he's an inventor on the
25 patent. He worked with the inventors at the time they were

1 allegedly coming up with this technology. And his deposition
2 preparation -- we are were in London with Mr. Love and
3 Mr. Close. His deposition preparation was coordinated by the
4 plaintiffs' lawyers with his lawyers. He was very much an
5 adverse witness to us. He's a friend of the inventors, and
6 yet he still admitted that.

7 If we jump to slide 15, the Federal Circuit has
8 repeatedly said, in *Phillips* and here in *Voice Techs*, that
9 inventor deposition testimony can be relevant and it can be
10 used to confirm what's in the claims and the specification,
11 and that's exactly how we're using it here.

12 Now, if we could turn to slide 16 -- so that explains
13 the first part of our construction, that droop outputs are
14 used to adjust the droop function. The second part of our
15 construction is really undisputed. It's the "i.e., the
16 function used to automatically lower the voltage based on
17 output current."

18 And that comes directly from the specification at
19 column 1, lines 36 to 41, where it explains that the droop
20 function automatically lowers the output voltage based on the
21 output current.

22 And the plaintiffs don't dispute that. Slide 18
23 shows their brief. They concede that we've got the droop
24 function right. So we agree on that piece of it.

25 So we'd submit, based on all that, Your Honor, that

1 the proper construction of a droop function is "outputs of the
2 calibration control circuit used to adjust the droop function;
3 i.e., the function that automatically lowers the output
4 voltage based on the output current."

5 I caught myself and I slowed down a little.

6 Now, Mr. Love made a number of arguments about why
7 they believe our construction is wrong, and they made a number
8 of arguments in their brief, and I want to address some of the
9 main ones.

10 First, in their brief and, to a certain degree, in
11 Mr. Love's argument, they suggested that we're reading "droop
12 function" into the claims.

13 Well, if we could pull up slide 22, that argument
14 doesn't make any sense at all. It's inconsistent with their
15 own construction. They include the term "droop function" in
16 their construction as well. They're saying we're reading in
17 "droop function," but their own construction includes the term
18 "droop function."

19 So we're not reading anything into the claims. What
20 we're doing is what the Federal Circuit has told us to do.
21 The term is "droop outputs." And the question, then, is what
22 a droop output? More specifically, the parties agree that
23 droop outputs make adjustments. So the question is: What
24 adjustments do the droop outputs make? The term itself
25 indicates that they make adjustments related to droop, and the

1 specification confirms that. So we're not reading anything
2 into the claims. We're just doing what *Phillips* tells us to
3 do, which is look to the patent to figure out what the term
4 means.

5 Second, they argued in their brief -- and Mr. Love
6 alluded to this -- that our construction would exclude certain
7 embodiments in which droop outputs merely adjust voltage. And
8 we tried to address each of these in our briefs, but I will
9 say this. There is not a single instance in the patent, in
10 the provisional or anywhere else, where a droop output is used
11 to merely adjust voltage. And none of the places of the
12 places they point to shows droop outputs being used to adjust
13 merely voltage.

14 And there's a reason for that, because outputs used
15 to adjust merely voltage, that's what voltage feedback --
16 that's what all voltage regulators do. That's the purpose of
17 a voltage regulator.

18 So let me point to two of the instances in the patent
19 that they pointed to.

20 So if we could pull up slide 24, please.

21 So they point to column 5, lines 61 to 63, the
22 portion of the specification that says, "The load voltage and
23 the temperature may be monitored while the droop and sense
24 settings may be adjusted until the load voltage meets the
25 load's specification." They say that somehow suggests that

1 droop outputs can be used to adjust merely voltage.

2 Well, it doesn't even refer to droop outputs. It
3 doesn't say that droop outputs can be used to merely adjust
4 voltage. All it says is that the droop and sense settings may
5 be adjusted until the voltage is at the right point.

6 Well, that's the whole point of making adjustments to
7 a droop function and to the current sense circuitry, because
8 the goal of this voltage regulator is to keep the voltage
9 within a certain range. But it doesn't say anything about
10 droop outputs being used to adjust merely voltage.

11 A second one they pointed to, if we could jump to
12 slide 26, they rely on a passage at column 9, lines 4 to 5;
13 and I think they inadvertently miscited the patent in this
14 one, and we tried to clarify that in our brief. But they
15 point to this column 9, lines 4 to 5, where the patent states
16 that "Adjusting the droop amplifier may be equivalent to
17 adjusting the reference voltage," and say that that means
18 droop outputs can merely adjust voltage.

19 Well, again, that doesn't refer to droop outputs, and
20 it doesn't say droop outputs merely adjust voltage. All it
21 says is that by making adjustments to the droop amplifier, you
22 can effectively change the target voltage.

23 Well, yes, that's the whole point of a droop
24 function, as Mr. Rowan explained yesterday. You adjust the
25 droop amplifier to adjust the droop function so that the

1 voltage remains in the range. But in a droop function, as
2 Mr. Rowan explained yesterday, you adjust that voltage
3 preemptively so that when the voltage drops, you stay in the
4 range. That's very different from just reacting to a voltage
5 drop after it's happened.

6 So this passage, like all the other passages, doesn't
7 say that a droop output can be used to merely adjust voltage.
8 It doesn't say anything about droop outputs at all. And I
9 think one thing that's telling is the portions of the
10 specification that tell us what droop outputs are and what
11 they do are portions that they ignored in their opening brief.

12 Third, Mr. Love argued and the plaintiffs argued in
13 their brief that the patent sometimes uses permissive
14 language. And one of the portions he pointed to -- and if we
15 could pull up -- well, that's all right. One of the portions
16 he pointed to was column 7, lines 23 to 25; and it says, "The
17 calibration control circuit may also adjust the droop
18 amplifier via the droop output."

19 All that says is that the calibration control circuit
20 may use droop outputs. So we know that droop outputs are
21 required, because they're in Claim 1. Claim 1 specifically
22 recites droop outputs. So the question is: What is a droop
23 output?

24 This quote that they've pointed to -- and, Mr. Lee,
25 are we able to put up column 7, lines 23 to 25?

1 Thank you.

2 He's usually two steps ahead of me.

3 This doesn't say that a droop output may be
4 something -- may be used to make adjustments other than to the
5 droop function. It doesn't say droop outputs may be used to
6 adjust merely voltage. All it says is that the calibration
7 control circuit may use droop outputs. But, again, the claim
8 specifically requires droop outputs; and so that doesn't help
9 the plaintiffs either.

10 Fourth, the plaintiffs make an argument based on the
11 doctrine of claim differentiation. Now -- and this argument
12 is just -- it's legally and it's factually wrong with respect
13 to the plaintiffs.

14 Under the doctrine of claim differentiation, an
15 independent claim generally should not be construed so that it
16 has the same scope as a dependent claim. So, in other words,
17 if you have a limitation, a term in an independent claim, and
18 then that term is limited in a specific way in a dependent
19 claim, you can't properly limit that term in the independent
20 claim so that it would have precisely the same scope as the
21 dependent claim.

22 It's well-established that claim differentiation does
23 not apply when a construction would not result in an
24 independent claim and a dependent claim having the same scope.
25 And let me walk through this in a little bit of detail,

1 because I think that will help.

2 Plaintiffs' argument based on Claim 26 -- and if we
3 could pull up slide 29 -- they argue, based on Claim 26, that
4 because Claim 26 recites some of the specific circuitry
5 discussed in the specification, that Claim 1 can't be limited
6 to a droop output adjusting a droop function.

7 Well, that's wrong for at least three reasons. One,
8 Claim 26 doesn't even reference a droop output. It does
9 require droop outputs, because it depends on Claim 1, but it
10 doesn't even address droop outputs, let alone add a particular
11 limitation to a droop output.

12 It's not saying -- if Claim 26 says droop outputs,
13 wherein the droop outputs adjust the droop function, and then
14 we were trying to construe "droop output" as limited to
15 adjusting the droop function, then we'd have a problem. Well,
16 we wouldn't have a problem because we wouldn't be proposing
17 this construction.

18 But that's not what Claim 26 does. It doesn't say
19 any -- it doesn't even use the term "droop output." It
20 doesn't purport to add any limitation to droop output.
21 Instead, it lists a whole host of other circuitry, like
22 multiphase clock register, multiple phases, multiphase clock
23 register, other things, and it adds an adjustable amplifier,
24 as Mr. Love referenced. But our construction, our proposed
25 construction, a "droop output" is "used to adjust the droop

1 function," would not render Claim 1 and Claim 26 to have the
2 same scope, not even close, because Claim 26 recites all this
3 other detail. And so as a fundamental matter of patent law
4 and claim differentiation, claim differentiation doesn't apply
5 here.

6 And, respectfully, the fact that they're making this
7 argument I think shows the extent to which they've had to go
8 to try and justify their construction.

9 So let me turn to their construction. And if we can
10 put that back up on the screen, slide 34, again, they're
11 proposing that a "droop output" is an output "used to adjust
12 voltage in circuitry, in a system that includes a droop
13 function." And, again, we'd submit that's wrong for three
14 primary reasons.

15 If we could put slide 35 on the screen, please.

16 So, first, as I said at the beginning, plaintiffs'
17 construction would read the word "droop" out of the term
18 "droop output." Under their construction, a droop output can
19 be any output to a voltage regulator that makes any adjustment
20 to voltage, even if it has nothing to do with droop.

21 Now if they had wanted to claim an output that made
22 any adjustment to voltage, they could have claimed an output,
23 they could have claimed an output to the voltage regulator,
24 they could have claimed a voltage output. But they didn't.
25 They claimed a droop output.

1 And you have to ask, as you did, under their
2 construction, what does the term "droop" mean? If a droop
3 output can be any adjustment to, let's say, a reference
4 voltage that has nothing to do with droop at all, what is
5 "droop" adding to the claim? Nothing.

6 And as we have on the slide on the screen, slide 35,
7 which shows Claim 1, under their construction the claim would
8 mean the same thing as if you deleted "droop" from the term.
9 And that is a fundamental violation of the rules of claim
10 construction. Every claim term has to have meaning.

11 Now, they tried to overcome that by arguing that
12 "Well, look, our construction does require it to occur in a
13 system with a droop function." But that is nowhere in the
14 patent, that a droop output is something that's merely in a
15 system with a droop function. And it doesn't make any sense.
16 The claim doesn't say "system with a droop function." It says
17 "droop output." "Droop" modifies "output." So it's an output
18 that relates to droop.

19 Now, second, their proposed construction -- if we
20 jump to slide 36 -- is inconsistent with the specification.
21 Again, as I walked through earlier, the patent tells us that
22 droop outputs adjust the circuitry that implements the droop
23 function. They essentially just ignored that in their opening
24 brief.

25 And, third, if we jump to slide 37, I said at the

1 beginning that what the patent explained as the goal of this
2 invention was to correct for droop inaccuracies. This is
3 slide 37, column 1, starting at line 66, to column 2, line 7.

4 So the goal of this alleged invention is to
5 correct -- among other things, to correct for droop
6 inaccuracies. And as we discussed, that's referring to
7 inaccuracies with the droop function. But if droop outputs
8 could be any output that has nothing to do with droop, then
9 you're not even addressing the whole purpose of the invention.

10 So what's really going on here?

11 If we could pull up slide 38, please.

12 I think, Your Honor, we'd submit that plaintiffs'
13 statements, including their own experts' statements from
14 earlier in the case, are telling. In their Complaint,
15 plaintiffs originally argued that Intel infringed based on
16 their assertion that Intel's FIVR circuitry uses a droop
17 function.

18 And this is a quote from their Complaint. They said,
19 "The droop function, also known as load line or active voltage
20 positioning, is used in a voltage regulator to automatically
21 lower the output voltage based on the output current." They
22 say, "Intel implements the droop function in its FIVR
23 products." That's why they said we infringe.

24 If we turn to slide 39, their expert -- not their
25 expert who is here today, but a different expert, Professor

1 Melvin, said in his declaration that droop outputs modify the
2 droop function.

3 So this is on slide 39. It's from his declaration.
4 And he says, "The droop output of the calibration control
5 circuit does not implement this function" -- the function he's
6 referring to in the prior sentence is the droop
7 function -- "but rather modifies the function." That's their
8 own expert's statement in a declaration submitted to the
9 Court.

10 So then if we could turn to slide 40, then they
11 learned that FIVR -- they learned in discovery that FIVR does
12 not have a droop function, and their tune changed completely.
13 And this side-by-side comparison shows how it changed.

14 On the left is their Complaint. They say we infringe
15 because "Intel implements the droop function in its FIVR
16 products."

17 And on the right now is what they say in claim
18 construction: "No embodiment described in the '944 patent
19 implements a droop function by using the calibration data,
20 droop outputs, or sense outputs. Droop outputs merely adjust
21 a voltage or a current feedback loop."

22 So what's going on? They learned that FIVR doesn't
23 have a droop function, and now they're trying to improperly
24 stretch the claims and read out the term "droop" from the
25 claims in order to make an infringement case.

1 And, Your Honor, we submit that to adopt their
2 construction would be fundamental error.

3 Thank you.

4 THE COURT: Thanks.

5 Next?

6 MR. SUMMERSGILL: Your Honor, just to clarify one
7 thing, Mr. Love was going to respond to some of my arguments
8 on droop output.

9 THE COURT: It's your -- we have four hours. Spend
10 it however you want.

11 MR. JEFFREY LOVE: Thank you.

12 First, with respect to the general principles of
13 claim construction that Intel's counsel started with and the
14 importance of the specification, we're in full agreement on
15 that. That the *Phillips* case sets out important principles of
16 claim construction, we fully agree with that. He indicated
17 that there was some disagreement regarding the importance of
18 the specification between the parties. There isn't. It's the
19 same thing I think I said when I started.

20 Second, with respect to claim differentiation, he
21 points out that -- I mean, claim differentiation is a very
22 important part of the specification in a claim construction
23 analysis. It's critically important. And so he makes this
24 point that, well, Claim 26 doesn't refer to droop outputs. It
25 does refer -- I mean, we cite it for a reason. It refers

1 to -- that's what adds the circuitry that, according to Intel,
2 performs the droop function.

3 But look at Claim 29. So his point is, yeah, but
4 Claim 26 doesn't provide the detail that droop output goes to
5 that circuitry that's performing the -- the droop function and
6 makes an adjustment to it. Well, Claim 29 does. That's how
7 claim differentiation works.

8 And so I'm in agreement with him that Claim 26
9 doesn't require the droop output to go and make that
10 adjustment to the droop amplifier. But if you look at Claim
11 29, it says the circuit of Claim 26, where the calibration
12 control circuit interfaces with a regulator by adjusting said
13 adjustable droop amplifier via said droop output, that is
14 critical. And there is no more important, actually, analysis
15 of the specification than that right there.

16 Second, I can tell you it is hard for anybody
17 listening to these -- to Intel's presentation to be clear,
18 when they're citing to things, of the context of what is being
19 cited. And that comes through whether they're citing to the
20 discussions -- the depositions of the co-inventors in England
21 or to the specification, where they'll say this or that is
22 required. What are they referring to? Because if they're
23 referring to just Figure 1, that's a particular embodiment,
24 not Claim 1, Figure 1, that's got all the elements in all the
25 claims, just about.

1 And often that's what they're doing. And you
2 just -- and so in our brief, when we're dealing with their
3 briefs, we go through in some detail and point out when
4 they're quoting from one of the co-inventors or they're citing
5 to the specification, and we say, yeah, but that's with
6 respect to a specific embodiment.

7 And here's a rule of thumb for these patents. So the
8 patent starts with the background and does a summary. Then
9 it's got a detailed description of the invention. That starts
10 on column 4, about halfway down or so. You've got the
11 detailed description of the invention.

12 And notice what they say about Figure 1: Figure 1
13 is a schematic of one embodiment of the present invention.
14 Again, that's the claim drafter doing his best to inform you,
15 the Court, or anybody who is reading the patent, that when you
16 look at the discussion of Figure 1 in the specification and
17 you look at Figure 1 itself, keep in mind that's just one
18 embodiment; it's not the only embodiment.

19 Then you'll see in -- starting at column 4, the
20 detailed description of the invention, first it has a general
21 description, where it's not referring to Figure 1. So if
22 you're a patent lawyer and you want to go through the figure,
23 you keep going until they start referring to the numbers in
24 bold, because that's when you know, all right. Now they're
25 going to talk about Figure 1. And, typically, if you want to

1 understand something, you want to understand one concrete
2 example first, and then you'll go to the more general
3 principle.

4 So here in column 8, if you go down column 8, now
5 it's going to start talking about Figure 1. And you'll see
6 that it refers to -- you see these little numbers in bold. So
7 patents -- you know, patents always do that, and that's so
8 that -- now they're going to talk about a specific figure, and
9 the numbers refer you to a point on the figure, whereas before
10 they were more general.

11 So when I say that there are other embodiments in the
12 invention -- of the invention described in the specification,
13 in general I will be talking about the parts of the patent
14 that aren't specifically referring to Figure 1, because those
15 will have more general statements.

16 Again, when it refers to Figure 1, it says it's a
17 schematic of one embodiment of the present invention. Again,
18 that's a patent lawyer trying to tell you, don't limit the
19 claims to that.

20 And then, finally, at the very end -- column 9 is the
21 last column of the specification before the claims -- this is
22 the patent lawyer begging you not to limit the claims to the
23 Figure 1 invention. It says, "Other embodiments of the
24 invention will be apparent to those skilled in the art from
25 the consideration of the specification," and so forth. "It is

1 intended that the specification and examples be considered as
2 exemplary only of the present invention."

3 What more can a patent drafter -- there's nothing
4 more a patent drafter can do than those things to tell a Court
5 that when we write Claim 1 broadly, we want it construed
6 broadly. And if they've got the prior art, bring it on, you
7 know. But that's what we intend.

8 He talked about the -- kind of went off record there
9 a little bit, talking about the Complaint and what's in FIVR
10 and so forth and how the theories of the invention have
11 changed. And they have said several times on the record that
12 their FIVR chip does not implement a droop function.

13 It is in public documents, so I'm going to talk about
14 it, but I'll give him a little clue here if he wants to
15 object, but Intel publishes, makes publicly available,
16 specifications for external voltage regulators that drive a
17 chip, the FIVR chips included, specific to the FIVR chips, but
18 other chips as well.

19 And those provide that the droop function is going to
20 be -- is to be provided by the external voltage regulator into
21 the FIVR chip so the FIVR chip doesn't have to do it. The
22 voltage comes into the microprocessor, and it's got that droop
23 function already. And the microprocessor sends a signal to
24 the voltage regulator as well, and so that's part of the
25 system.

1 So when we say that there has to at least be a droop
2 function in the system, we aren't saying in our claim
3 construction that Intel's chip has to have it to infringe.
4 That's part of the environment in which these claims are
5 written.

6 So when they say -- and they're correct -- that
7 nothing in Claim 1 says that a droop function has to be part
8 of the system, well, that's right. And, you know, we would be
9 happy to construe it without that.

10 We were trying to meet them -- to address their
11 point, meet them halfway, that, you know, it is true that the
12 patent starts out basically describing the prior art, which
13 was voltage regulators that are going to implement a droop
14 function; and then it says it's not good enough.

15 You know, they're trying to solve the problem of
16 droop spikes and drops caused by that particular source of,
17 you know, changes in current, you know, through this droop
18 function. It's not working. That's the background of the
19 invention.

20 So the environment in which these claims are written
21 are where there's a lot of Intel chips -- I mean, Intel chips
22 and other chips that are implementing this droop function
23 either themselves or through external voltage regulators, and
24 it's not working. And we're going to provide adjustments to
25 that and other related problems having to do with the

1 circuitry that regulates voltage having manufacturing flaws,
2 manufacturing variations, for one; and, for two, having some
3 temperature dependencies, where it becomes inaccurate, may be
4 accurate at one temperature, but if it gets overheated, it
5 becomes inaccurate; and, three, the patent also talks about
6 trying to optimize -- have a system that has flexibility to
7 make adjustments to voltage for different loads.

8 So Intel's lawyer pointed to, at the very beginning
9 of the patent -- well, first he pointed to -- let's see.

10 So, again, he likes to focus on the Background of the
11 Invention. That's the environment that the inventors were
12 working in. It is not -- it's describing what already exists,
13 by and large, the problems with it.

14 And then when it talks about, though, their
15 invention, it talks about -- so, for example, this is column
16 1. You know, it says at the very end, "Another phenomenon
17 affecting current sensing circuit is temperature." So it's a
18 number of problems, and one of them is temperature.

19 It says before that -- oh, yeah, here it is. It
20 talks about processor batch variations. You make 10,000 of
21 them. They're a little different. Little differences can
22 wreck the voltage regulation, and it can do it in a lot of
23 ways, not just on whatever circuitry may be implementing a
24 droop function. But if you've got a droop function, and yet
25 other circuitry that affects the voltage is inaccurate, the

1 droop function is going to be off.

2 And, also, if you've got a circuit that has certain
3 load requirements or performance parameters that require a
4 certain voltage, and a voltage that may vary over time, that's
5 one of the things that this patent addresses as well. And for
6 claim differentiation, again, those dependent claims talk
7 about the different -- well, when it's talking about the
8 different types of data that may be in the nonvolatile memory,
9 so to store regulated performance parameters, to store
10 application specific power curve data, it's the data in the
11 nonvolatile memory that's being used by the calibration
12 control circuit for the sense and the droop outputs. There's
13 a wide variety of functions that are done by that.

14 So at the end of this background, I wanted to point
15 to this part, too: "The present invention provides a cost
16 effective," so forth, "solution to this and other shortcomings
17 of current devices, systems, and methods."

18 So, yes, the current systems that it was referring to
19 in large part, they did have a droop function in them. But by
20 our claim construction we are not proposing that Intel's chip
21 has to have a droop function implemented on it in order to
22 infringe. And we cite a case that talks about how patent
23 claims can be written with a certain environment in mind and
24 that that's not a claim limitation that the defendant
25 has -- defendant's product has to meet.

1 I want to address the comments about our expert, who
2 talked about how changes to voltage will modify the droop
3 function if you're in a system that has a droop function.

4 Just a second here. Here it is.

5 So here is one example. So this is court document
6 No. 115-5. This is the first declaration that Dr. Steve
7 Melvin submitted with our claim construction -- relating to
8 our claim construction briefing. And I just want to clarify
9 what he's talking about. And he's here in the courtroom if
10 you want to hear from him. I'm happy to call him, and you can
11 ask him questions or I would.

12 But this is his declaration, where what they said
13 is that the -- first off, again, he's talking, if you'll
14 notice here, about the circuit of Figure 1, not Claim 1. So
15 he says, "The function of automatically lowering the voltage
16 based on --

17 THE COURT: Slow down.

18 MR. JEFFREY LOVE: I'll just say that in general, the
19 droop function -- I'll change it, make it simpler -- the droop
20 function is implemented by those two circuits that aren't in
21 Claim 1, okay.

22 And then it says the droop output of 190, even in
23 Figure 1 -- so Figure 1 essentially, you could say, is showing
24 the circuitry in Claim 26, Claim 29, and others. But even in
25 that full-bodied figure, the best mode, if you will, it does

1 not implement the function itself, but rather it modifies the
2 function by making an adjustment to the output voltage of the
3 regulator. And the patent also discusses an embodiment for
4 adjusting the reference voltage directly rather than using a
5 droop amplifier.

6 So the point is, if you've got a system where the
7 voltage includes a droop function, that's going to affect the
8 output voltage, but that needn't be the only thing that
9 affects the output voltage. So if what you want to do is to
10 also optimize the output voltage so that it meets performance
11 parameters, as the patent will talk about, you could have an
12 output -- and that includes an output that goes to the droop
13 amplifier in Figure 1 or in Claim 29 -- that's intended to
14 adjust voltage, perhaps adjust voltage for a turbo mode, for
15 example, where they want just a lot of power and they're going
16 to just take the risk regarding heat and so forth because
17 Photoshop, you know, is in play and that's power intensive.
18 You could adjust the voltage for a lot of reasons, some of the
19 reasons discussed in the patent, and you could do it by making
20 an adjustment to that droop amplifier.

21 And you have Intel talk about, "Well, no, it's got to
22 be just addressing the droop function." What do they mean?
23 What adjustment to the droop function?

24 So there's two parts of the droop function,
25 basically, because it says -- it's some ratio of current to

1 voltage. It's got to start somewhere. So when there is zero
2 current, what's the voltage going to be? That would be like
3 the water tap that's off. There's going to be some pressure,
4 you know, on the water faucet. What is that pressure? That's
5 the set point.

6 You know, are they really saying that the patent is
7 limited to changing the set point of the droop function? No.
8 They don't get that specific.

9 And then the other thing that happens is what
10 happens, you know, when the current -- when the faucet is
11 turned on, essentially the current starts flowing at certain
12 levels. How does the voltage change or the water pressure
13 change? If it's going to be a flat -- is it a flat line
14 function? Are they going to change it from a flat line, from
15 a straight function to something that's a little more wavy or
16 complicated? And, if so, are these droop outputs going to be
17 changing that function? You know, what do they mean when they
18 say "adjust the droop function"? They don't talk about that
19 at all.

20 The fact of the matter is the patent is not limited
21 to either of those things. When it is providing an adjustment
22 to voltage, it is open ended as to what that adjustment could
23 do. And the Claim 1 in particular should be construed
24 accordingly.

25 So they say we're reading "droop" out of the claims.

1 Not so. It's just that "droop output" refers to "droop loss,"
2 which is any change in voltage. And as they say in a footnote
3 in their brief about droop function, it's defined in the
4 patent as lowering voltage when current raises, but includes
5 the opposite. So it's voltage going up or down. And droop
6 loss is any spike or any drop.

7 You know what the voltage wants to be; you're just
8 trying to get it there. That the patent says in spades when
9 it talks about how you create the calibration data that's
10 going to be used to generate those droop outputs.

11 Well, it's reply, so I'll leave it at that, then.
12 And I'll either move on to the next claim, or if you want to
13 hear from Mr. Summersgill --

14 MR. SUMMERSGILL: Hold on. One, I want to make a
15 couple of brief points; and, second, we're doing the next
16 term.

17 MR. JEFFREY LOVE: That's true. That's true.

18 MR. SUMMERSGILL: We at least agree on that.

19 MR. JEFFREY LOVE: Yes.

20 MR. SUMMERSGILL: So, Your Honor, four very quick
21 points on "droop output," and then we can move on to the
22 "sense output" term, although I suspect some people in the
23 room might want to take a quick break.

24 So four quick points. On the external voltage
25 regulator, the point that Mr. Love referenced, Intel doesn't

1 require -- those are built by other entities. Intel doesn't
2 require those external voltage regulators to have a droop
3 function. And it is other entities, the OEMs, who buy those
4 external voltage regulators, not Intel.

5 Our point there was simply that when plaintiffs
6 learned that FIVR didn't have a droop function, they changed
7 their tune completely to read "droop" out of the claim.

8 So, now, three points in response to Mr. Love. One,
9 he referred to their claim differentiation argument on
10 Claim 26, and they added another claim, Claim 29. And he said
11 that Claim 26 adds the circuitry that implements the droop
12 function.

13 Well, Claim 26 does add certain circuitry that can be
14 used to implement a droop function, but as the patent itself
15 says, there are many ways to implement a droop function.
16 We're not limiting the claims to the particular way of
17 implementing a droop function that are shown in Figure 1 or to
18 the circuitry that's shown in Claim 26.

19 Then he pointed to Claim 29, but Claim 29 -- that's
20 an argument that they hadn't made before. But Claim 29
21 doesn't create a claim differentiation issue with respect to
22 droop output because Claim 29 doesn't add the limitation that
23 a droop output adjusts a droop function. So if you adopt our
24 proposed construction, Claim 1 and Claim 26 and Claim 29 all
25 have a different scope. Claim differentiation doesn't apply.

1 Second point is he argued that we're limiting the
2 claims to the embodiments, and he suggested that we're trying
3 to limit Claim 1 to Figure 1. Not at all. And we're not
4 limiting to particular embodiments.

5 The Federal Circuit, in the *Curtis Wright* case that
6 we cited in our briefs, was very clear on this point. It said
7 where the term is in the claim itself and you define that
8 term, you're not limiting it to embodiments; you're just
9 looking to the specification to figure out what the term
10 means.

11 That's what we're doing here. The term "droop
12 output" is in the claim. So the question is: What does that
13 term mean? And the patent and the claims tell us that it is
14 an output that adjusts a droop function.

15 Again, if the term in the claim were merely an
16 output, and we were trying to limit it to a droop output, we
17 would have a problem. But that's not the case here.

18 And the final point -- let me pull up slide 35 -- is
19 the Federal Circuit is clear you have to give -- we have to
20 give meaning to every term in the claim. The term here is
21 "droop output," which suggests it's an output related to
22 droop. And under the plaintiffs' construction, that term
23 would have no meaning whatsoever. And that would be a
24 fundamental error in claim construction.

25 So with that, Your Honor, I'm prepared to turn to

1 "sense outputs," but wanted to see if --

2 THE COURT: Yeah. Why don't we go ahead and take our
3 morning break at this time. We'll be in recess for 15
4 minutes.

5 Thank you.

6 MR. SUMMERSGILL: Thank you, Your Honor.

7 (A recess is then taken.)

8 THE COURT: Have a seat.

9 MR. SUMMERSGILL: Your Honor, if I may, just a few
10 things before we get started, but given the time constraints,
11 we've talked to the plaintiffs, and unless there are -- you
12 have concerns with this, we'd suggest that we not argue all of
13 the terms.

14 And so there are two terms that we've agreed to not
15 argue. Then we're going to change the -- that's the
16 "calibration control circuit" term and then the "interfaces"
17 term, which is the last term. And then we've agreed that
18 we'll move "load voltage input" to the end and only argue that
19 if there is time.

20 THE COURT: Okay.

21 MR. SUMMERSGILL: And I just note, not to be too
22 focused on this, but the plaintiffs have used an hour and five
23 and we've just 43 minutes, and we want to have a roughly equal
24 amount of time.

25 So with that, Your Honor, if it's okay, I'll turn to

1 the term "sense outputs."

2 Now, if we could pull up slide 2, Intel submits that
3 the term "sense outputs" are "outputs of the calibration
4 control circuit used to adjust the circuitry that measures
5 current." And the plaintiffs have proposed that "sense
6 outputs" are merely used to adjust any circuitry in the
7 current feedback loop and need not have any effect on
8 circuitry that measures or senses the current. And we'd,
9 again, submit that that proposed construction is improper.

10 So like the term "droop outputs," the term "sense
11 outputs" doesn't have a commonly understood meaning in the
12 art. And so *Phillips* tells us to look to see how it's used in
13 the patent in order to understand the construction.

14 So if we turn to slide 3, and starting with the
15 language of the claims, the claim language of the
16 claims -- again, this is Claim 1. The claim language of the
17 claims indicates that sense outputs are outputs that relate to
18 sense circuitry. And the claim repeatedly refers to "sense
19 outputs," not merely "outputs." So the term itself tells us
20 these aren't just generic outputs. These are outputs that
21 relate to sense or sense circuitry.

22 Second, if we pull up slide 4, if we turn to the
23 specification, the specification confirms that the sense
24 outputs are used to adjust sense circuitry or the circuitry
25 used to measure current.

1 So on slide 4 -- and this is from column 1, line 66,
2 to column 2, line 4. The patent explains that "prior art
3 voltage regulators were flawed because current sensing
4 circuitry" -- i.e., the circuitry that measures
5 current -- "could not accurately measure current as
6 temperature changes."

7 What it says is -- and this is in the top box on
8 slide 4 -- "The resistance" -- "Most elements used in current
9 sensing have positive temperature coefficients. The
10 resistance of the circuit increases as the temperature
11 increases. This variation results in erroneous measures of
12 the current."

13 So what it was explaining is that the problem in the
14 art was that current sense circuitry -- i.e., circuitry that
15 measures current -- has inaccuracies as temperature changes.

16 And what it says in the next box below, in the same
17 slide -- and this is from the patent abstract -- is that "The
18 present invention addresses that problem," and it does so with
19 "a calibration controller that senses and regulates both a
20 current sensing circuit and then the droop," as we discussed
21 earlier, "over a range of temperatures."

22 And if we jump to slide 5, the specification then
23 tells us that the purported invention uses sense outputs to do
24 this. And as Mr. Rowan explained in the tutorial yesterday,
25 and as the patent itself states, there are two circuits in the

1 current feedback loop that are involved in the measurement of
2 current; i.e., two sense circuits. And we have them listed
3 here.

4 There's the current sense circuit. And the current
5 sense circuit, that is in orange in Figure 1 on the slide.
6 The current sense circuit measures the output current supplied
7 to the load and sends an initial measured signal to the sense
8 amplifier.

9 The adjustable sense amplifier, the other sense
10 circuit described in the patent, as the patent
11 explained -- and this is at column 8, lines 53 to 54 --
12 "controls the variances in the current sensing circuit to
13 ensure accurate measurement of current."

14 So what happens is the current sense circuit measures
15 the current. It sends that signal to the sense amplifier, and
16 the sense amplifier makes adjustments in order to ensure a
17 correct measurement of current.

18 And then collectively, those two circuits provide the
19 accurate current measurement back to the voltage regulator in
20 the current feedback loop. They provide the accurate measured
21 current signal back to the feedback loop.

22 So then if we turn to slide 6, the patent then
23 explains that the calibration control circuit uses the sense
24 outputs to adjust the sense amplifier.

25 And so let me walk through this. So starting at the

1 top of the slide -- and this is from column 7, lines 13 to
2 16 -- the patent explains that "the current sense circuit
3 measures the current of the output FETs and feeds back to the
4 register via the adjustable sense amplifier."

5 "Output FETs" is just referring to the current output
6 from the voltage regulator. So the current sense circuit
7 measures the output current and sends it to the adjustable
8 sense amplifier.

9 Turning to the next box, column 8, lines 53 to 58,
10 the patent explains that "the adjustable sense amplifier then
11 controls the variances in the current sensing circuit. By
12 adjusting the feedback gain of the adjustable sense amplifier,
13 variations in the current sense circuit of each phase can be
14 balanced."

15 So what that's saying is that the adjustable sense
16 amplifier then makes adjustments to control or correct for
17 variations in the sense circuit, the inaccuracies in the sense
18 circuit that the patent referenced earlier.

19 And then turning to the bottom of the slide, column
20 7, lines 21 to 25, the patent explains that "The calibration
21 control circuits of the present invention may interface with
22 the multiphase regulator by adjusting the sense amplifiers in
23 each phase via the sense outputs."

24 So the patent explains that the sense outputs are
25 used to adjust the sense amplifier, which in connection with

1 the current sense circuit, provides the measured current
2 signal.

3 So the patent is explaining that the sense outputs
4 are used to adjust, as the name would suggest, the sense
5 circuitry, the current sense circuit and the sense amplifier,
6 which is the circuitry that collectively provides the measured
7 current signal to the regulator.

8 And so that's why we'd submit, Your Honor, that the
9 proper construction of "sense output" is "outputs of the
10 calibration control circuit used to adjust the circuitry that
11 measures current."

12 "Sensing circuit" and "measuring current" are
13 synonymous, so the sense outputs are used to adjust the sense
14 circuitry; i.e., the circuitry that measures current.

15 Now, plaintiffs have made a number of arguments about
16 our proposed construction. And let me address the primary
17 one. They argue that Intel's proposed construction would read
18 out the preferred embodiment of the patent shown in Figure 1.
19 And specifically, Your Honor, what they argue is that the
20 sense outputs only adjust the sense amplifier; the sense
21 amplifier doesn't measure current; and, therefore, Intel's
22 proposed construction requiring the sense outputs to adjust
23 circuitry measuring current would exclude the preferred
24 embodiment.

25 And that, Your Honor, is just simply wrong. And it's

1 wrong -- and, tellingly, they ignore the specification's
2 express statement that I had up on the screen -- in fact, I
3 still have it up on the screen, thank you to Mr. Lee -- that
4 states that "the sense amplifier controls variances in the
5 current sense circuit."

6 So our construction, our proposed construction, is
7 consistent with the preferred embodiment. Our construction
8 that says the sense outputs are "used to adjust the circuitry
9 that measures current" is consistent with the preferred
10 embodiment, because the sense amplifier and the current sense
11 circuit are the -- they're the two sense circuits, and they
12 are the two circuits involved in providing a measured current
13 signal to the regulator.

14 So it's a little bit like Google Maps, Your Honor,
15 like Google Maps measuring how long it will take you to get
16 home from work. First it looks -- you know, one piece of it
17 looks at the distance from, you know, point A to point B. And
18 based on that distance, it calculates a certain time. And
19 then it makes an adjustment based on what time are you going?
20 Are you going at rush hour or are you going at 3:00 in the
21 morning when there's no traffic? And so it corrects that
22 measurement.

23 This is exactly what's going on here. The current
24 sense circuit measures current, the sense amplifier makes
25 corrections, and then a corrected signal is sent back to the

1 regulator.

2 And so by adjusting the sense amplifier -- and the
3 patent is unequivocal that the sense outputs adjust the sense
4 amplifier -- the sense outputs adjust the circuitry that
5 measures the current, that collectively measures the current,
6 and provides the measured current signal to the voltage
7 regulator. And so we'd submit, Your Honor, that our
8 construction is entirely consistent with the preferred
9 embodiment.

10 Now, let me quickly address why we would submit their
11 proposed construction is wrong. So if we could jump to slide
12 11, plaintiffs are proposing to construe "sense outputs" to
13 mean "outputs of the calibration control circuit used to
14 adjust the current feedback loop." So they're saying it can
15 be used to make any adjustments to circuitry in that feedback
16 loop, even if it's circuitry that has nothing to do with
17 sense -- with sensing circuitry.

18 So the first problem with that argument, Your Honor,
19 is that it would read the word "sense" out of the term "sense
20 output."

21 THE COURT: Hang on just a second on that point,
22 because as I understood it, the sense output is always going
23 to be current.

24 MR. SUMMERSGILL: Correct, Your Honor.

25 THE COURT: And so if it's adjusting the current

1 feedback loop, isn't "current" the same as "sense"?

2 MR. SUMMERSGILL: Well, "sensing" refers to the
3 measuring. You can sense voltage. You can sense all sorts of
4 things. This is a -- the term in -- the circuit in Figure 1,
5 for instance, is referred to as a "current sense circuit"
6 because it's sensing current. So the term we're focused on
7 "sense." It's a sense output because it measures something,
8 and it measures current.

9 And there are two sense circuits in the current
10 feedback loop, two circuits described as sense circuits: the
11 current sense circuit and the adjustable sense amplifier.

12 Now, the plaintiffs concede in their brief -- and I
13 believe it's their reply brief. It's ECF 143 at 10. They
14 concede that only a portion, only one portion of the current
15 feedback loop is involved in measuring or sensing current.

16 And yet, under their construction, a sense output
17 could be something that makes adjustments to any circuitry in
18 the current feedback loop, even if it has nothing to do with
19 sensing or measuring current.

20 So if we could pull up slide 12, please, as Mr. Rowan
21 explained yesterday, there are a lot of different circuits in
22 the current feedback loop. And you can see the current
23 feedback loop -- and this is part of what Mr. Rowan explained
24 yesterday. We've shown part of it in yellow. And you can see
25 it starts at the current sense circuit. That measures the

1 current. Then it goes to the adjustable sense amplifier.
2 That makes the corrections to the measured current signal.
3 And then it goes to the PWM. Then it goes to a host of other
4 circuits.

5 So under their proposed construction, a sense output
6 could be something that goes to the PWM, the pulse width
7 modulator, even though the pulse width modulator has nothing
8 to do with sensing or measuring current.

9 Under their construction, an output to the next block
10 could be a sense output, even though it also has nothing to do
11 with sensing or measuring current.

12 And, in fact, Your Honor, as -- as Mr. Rowan
13 explained yesterday and as Your Honor noted yesterday, the
14 pulse width modulator receives multiple signals. It also
15 receives signals relating to the voltage feedback loop and the
16 droop function.

17 So under their construction, an output to the PWM
18 relating to the droop function could suddenly also be a sense
19 output, and there would be no distinction between a sense
20 output and a droop output. And we know that can't be the
21 case, because they use different terms to describe different
22 things.

23 So if we put up slide 13, under their construction,
24 in which a sense output can be any output that adjusts any
25 circuitry in the feedback loop, even circuitry that has

1 nothing to do with sensing or measuring current, they would
2 read the term "sense" out of the claims, just as in the "droop
3 output" term.

4 And, again, as *Phillips* tells us, you have to give
5 meaning to every term used in a claim. And their construction
6 would improperly read that term out of the claim.

7 Your Honor, I'll stop there. And if you have any
8 questions, I'm happy to address them. Otherwise, I'll turn it
9 over to Mr. Love.

10 THE COURT: Thank you. I don't have any questions.

11 MR. SUMMERSGILL: Thank you.

12 MR. JEFFREY LOVE: Your Honor, Mr. James DeRouin, my
13 colleague, is going to argue this one.

14 THE COURT: Okay.

15 MR. DeROUIN: Thank you, Your Honor. James DeRouin
16 for plaintiffs.

17 May I proceed?

18 THE COURT: Sure.

19 MR. DeROUIN: So with regard to sense outputs, I
20 think a good place to start is with your question to opposing
21 counsel on whether sense -- whether current gives life to
22 sense in our construction. And you're absolutely right that
23 current does, in fact, give life to the word "sense" in "sense
24 outputs." In a similar way, as voltage and the droop function
25 give life to the word "droop" in "droop outputs," current

1 gives life to the word "sense" in "sense outputs."

2 What's happening here is the sense outputs are
3 outputs of the calibration control circuit that are used to
4 adjust current in the feedback loop.

5 There's much discussion over some of the stated
6 problems addressed by this patent. There's more than just
7 temperature, as opposing counsel would like to lead you to
8 believe. There's also these manufacturing variances. And the
9 sense outputs are designed to make adjustments to overcome
10 these circuit variations. It's not just variations in the
11 current sense circuitry, but it can be other circuitry within
12 the current feedback loop.

13 With respect to the preferred embodiment argument,
14 it's very clear from opposing counsel's construction of "sense
15 outputs" that they are, in fact, reading the preferred
16 embodiment of Figure 1 out of the claim. Figure 1 shows the
17 sense outputs going to the adjustable sense amplifier. In
18 their brief, they even concede that the adjustable sense
19 amplifier does not, in fact, measure any current.

20 Taking one quick step back on this, Intel's
21 technology presentation was a little bit difficult to
22 understand because in every one of their feedback loops, they
23 provide an amplifier. When you go back and you compare
24 plaintiffs' tech tutorial with Intel's tutorial, you'll see
25 that when we talk about a voltage feedback loop or a current

1 feedback loop, there's not necessarily an amplifier in the
2 system. You can measure a current and feed it directly back
3 to the pulse width modulator and accomplish the same goal as
4 you can if you have -- if you measure a current, you amplify
5 that current, and then feed it back.

6 In a lot of systems you do not need that amplifier.
7 But by placing that amplifier in Intel's tech tutorial, it
8 leads you to believe that you must have that amplifier in
9 order to measure current.

10 That's just not the case. The current can be
11 measured by the current sense circuit, which is why it's named
12 the "current sense circuit." And it can be amplified by the
13 current sense amplifier, which is one component within many
14 components that make up the current feedback loop.

15 By proposing construction that says that the
16 current -- that the sense outputs must adjust the circuitry
17 that measures current, it reads out Figure 1, because you
18 don't make any adjustment to circuit element 140, which is the
19 current sense circuit. That's the circuit that measures
20 current.

21 You apply an offset to that to make up for a number
22 of different things. It can be manufacturing variations. You
23 know, you can make a current sense circuit that just doesn't
24 work properly. You know, you make 100 of these things; each
25 one will be slightly different. And it comes up a lot in this

1 multiphase regulator because you want each current sense
2 circuit to be the same so that the current that comes out of
3 each phase is equal.

4 You can also do temperature, where the circuit
5 components, as they get hot, they act differently. But it's
6 not necessarily just the current sense circuit; it could be
7 other components within the feedback loop.

8 It's also clear that Intel's construction reads out
9 the preferred embodiment, because when you look to dependent
10 Claim 32, it doesn't talk about just adjusting the circuitry
11 that measures current. It makes adjustments that correct for
12 regulator circuit variations. Those variations aren't
13 necessarily just circuitry that measures current, but it also
14 could be other circuitry within that feedback loop.

15 You asked a question -- and I'll just reiterate
16 briefly -- whether we're reading "sense" out of the claim.
17 We're not. We're adjusting current. That's what the current
18 feedback loop does. We're giving life to sense. Sense is
19 current, and droop is voltage. We're giving life to both of
20 these terms.

21 With that, I'll leave you with this point. So sense
22 outputs were claimed broadly. We can both agree, the parties
23 can agree that sense outputs adjust current in a feedback
24 loop -- or current feedback loop. That's not disputed. Both
25 our constructions touch on that. Our construction is not

1 wrong, per se, in their eyes; it's just too broad.

2 But given the context of the specification, the
3 applicants chose that breadth. And they showed that even by
4 Figure 1, because they didn't adjust circuitry that actually
5 measures current. They adjust a separate amplifier that does
6 nothing but amplify the system, apply a gain, and provide a
7 corrected signal back to the current feedback loop.

8 With that, unless you have any questions, I will turn
9 it over.

10 THE COURT: You said something about the defense
11 approach reads out -- and you used -- I think you said 140?

12 MR. DeROUIN: I'll put it up.

13 THE COURT: And can you explain that to me further,
14 please? I don't have that circuitry in my head as well you
15 do.

16 MR. DeROUIN: Yes.

17 Is this thing turned on? Can we turn it on?

18 Thank you. I apologize.

19 THE COURT: I see 140.

20 MR. DeROUIN: Anyway, 140 is here (indicating). This
21 is the current sense circuit. They call it the current sense
22 circuit.

23 From the calibration control circuit down here at the
24 bottom left -- this is 190 -- you follow the sense output out
25 to circuit element 150. That's the adjustable sense

1 amplifier.

2 As you can see, this adjustment adjusts the
3 amplifier. It does not adjust the current sense circuit. The
4 current sense circuit remains the same.

5 Hypothetically, let's say the current sense circuit
6 improperly measures current. Adjusting this amplifier will do
7 nothing to correct that in that circuitry. That circuitry
8 will continue to give a bad number.

9 What we do here is we place an amplifier that's
10 adjustable within the current feedback loop. We place it in
11 the current feedback loop to correct for the bad measurement
12 of current in that loop.

13 You could make that correction by adjusting 140
14 itself. That's one way you could do it. You'd have an
15 adjustable resistor. You could make a value -- you can just
16 correct it here. You correct it at the source.

17 What the preferred embodiment shows is you place an
18 amplifier within the feedback loop to correct the value that
19 comes out of current sense circuit. So it measures the
20 current here (indicating). It feeds it back. You intercept
21 it by the amplifier. You apply a gain. And then that's fed
22 back to the pulse width modulator.

23 If you wanted to, you could do it even a third way.
24 You could adjust the pulse width modulator to account for a
25 bad signal coming in. There's a number of ways you could do

1 it.

2 My point on them reading out the preferred embodiment
3 is that -- and I quote -- "sense outputs," their position is
4 that it "adjusts the circuitry that measures current."

5 Current sense circuitry is right here (indicating).
6 It measures the current. Figure 1 does not adjust that
7 circuitry. It adjusts different circuitry you place in there
8 in order to adjust the current feedback loop as a whole.

9 Does that answer your question, Your Honor?

10 THE COURT: Yes. Thank you.

11 MR. DeROUIN: Anything else I can clear up for Your
12 Honor?

13 THE COURT: No. Thank you.

14 MR. DeROUIN: Thank you for your time.

15 MR. SUMMERSGILL: Your Honor, three quick points on
16 "sense output."

17 Actually, if we could pull up slide 5 to start with.

18 So, first, Mr. Geringer argued that our construction
19 would read out the preferred embodiment. And, again, let me
20 explain why that is not right.

21 So the current sense circuit measures current. And
22 the sense amplifier then -- as the quote on the bottom of
23 slide 5 explains -- controls the variances in the current
24 sensing circuit. In other words, it makes adjustments to the
25 measured current signal so that you have an accurate measured

1 current signal that is sent back to the voltage regulator.

2 So, again, it's a little bit like Google Maps. If
3 Google Maps just determined the time it will take you to get
4 home from work by looking at the distance and didn't take into
5 account the traffic, it would send you an inaccurate
6 measurement of the time to get home from work. Instead, it
7 makes an adjustment to that measurement so that you have a
8 correct measurement of the time it takes to get home from
9 work.

10 That's what the adjustable sense amplifier does in
11 this -- in this patent. It makes a correction to the measured
12 current signal so that you have an accurate measured current
13 signal regardless of the temperature, and then it provides
14 that signal back to the regulator.

15 There's a reason that both the current sense circuit
16 and the adjustable sense amplifier are referred to in the
17 patent as sense circuits, because they're both involved in
18 sensing or measuring the current.

19 And so when the sense output makes an adjustment to
20 the sense amplifier, it is making an adjustment to the
21 circuitry that measures current, to the circuitry that
22 provides the measured current signal back to the regulator.

23 Now, does the -- look, does the sense amplifier on
24 its own measure current? No. But it's involved in measuring
25 the current because it's making an adjustment to that measured

1 current signal so that you have an accurate measurement.

2 Another analogy would be like a digital thermometer
3 that you use to take someone's temperature. There are sensors
4 in there that actually sense the actual temperature, and then
5 there's circuitry that converts that into a readable format
6 and puts it up onto the screen so that you can read it.
7 Everyone would agree that a digital thermometer measures
8 temperature.

9 The same thing is involved here. The two sense
10 circuits -- i.e., you could call them measuring circuits;
11 "sense" refers to measuring -- are involved in measuring
12 current. So our construction is not reading out the preferred
13 embodiment at all.

14 Second, Mr. Geringer referred to Claim 32 and argued
15 claim differentiation. I'll note this is not an argument
16 they've made before, but again --

17 THE COURT: Let me interrupt you --

18 MR. SUMMERSGILL: Yes.

19 THE COURT: -- and kind of, I think, raise the point
20 that the plaintiffs are raising, and that is that your
21 construction which says "outputs of the calibration control
22 circuit used to adjust the circuitry that measures current"
23 is -- I think what their point is is that the current sense
24 circuit is not something that adjusts the circuitry that
25 measures current. They, I think, concede that the adjustable

1 sense amplifier performs that function, but not that the
2 current sense circuit performs that function.

3 MR. SUMMERSGILL: Right. The current --

4 THE COURT: And so -- and perhaps what you're telling
5 me is that those two things together are a circuit. I don't
6 know. I'm having trouble kind of following what your
7 suggestion is and why they're wrong on that particular point.

8 MR. SUMMERSGILL: Fair enough, Your Honor. Let me
9 try and address that.

10 We're not saying that that's one circuit. What we're
11 saying is they are collectively the circuitry that measures
12 the current. So our proposed construction is "outputs of the
13 calibration control circuit used to adjust the circuitry that
14 measures current."

15 And what we're saying is that collectively the
16 current sense circuit and the sense amplifier are the
17 circuitry -- exactly, the circuitry that measures current.
18 Because if you just use the current sense circuit and you
19 don't make the corrections, you then have an incorrect
20 measurement, and that doesn't do anyone any good.

21 If you used a digital thermometer to take your
22 child's -- if I used a digital thermometer to take one of my
23 daughters' temperatures and it showed a reading of 101 and her
24 temperature was really 99, that wouldn't do me much good.

25 And so in order to correctly measure the current, you

1 need both of these circuits.

2 THE COURT: And I think what they were doing is they
3 were pointing to -- and they actually did -- the calibration
4 control circuit and the arrow that comes out and then only
5 goes to the adjustable sense amplifier, and I think pointing
6 to that and saying it doesn't -- it doesn't do what your
7 construction is saying as regards the current sense circuit.

8 MR. SUMMERSGILL: Yes, that is exactly what they're
9 arguing.

10 THE COURT: And, again, what you're suggesting is,
11 well, you have to look at the entire thing as a -- as a
12 circuit. You're defining the whole thing in more broad terms,
13 even though it looks like that might be a completely
14 self-contained circuit there, No. 140 there. I think it's
15 140. I can't see very well.

16 MR. SUMMERSGILL: I think -- I can't see it very well
17 in that version either.

18 Thank you.

19 So the current sense circuit is 140. The adjustable
20 sense amplifier is 150.

21 THE COURT: Okay. I think I understand your
22 argument, unless I said it incorrectly.

23 MR. SUMMERSGILL: And let me just make sure I've said
24 it clearly enough, which is we agree completely, and the
25 patent is clear that the sense outputs are used -- are sent to

1 the adjustable sense amplifier. So they adjust the sense
2 amplifier. But it's the sense amplifier that receives the
3 measured current signal from the current sense circuit and
4 then makes adjustments to ensure an accurate measurement of
5 current.

6 So what we're saying is that collectively the current
7 sense circuit and the adjustable sense amplifier are involved
8 in measuring the current. And the sense output is the thing
9 that is used to make adjustments to that circuitry.

10 It's no mistake, Your Honor, that the term is a
11 "sense output," and then there are two sense circuits
12 described in the patent: the current sense circuit and the
13 adjustable sense amplifier.

14 And so let me close, Your Honor, by -- well, let me
15 quickly address the claim differentiation argument they made,
16 if we pull up Claim 32. They hadn't made that before. There
17 is no claim differentiation with Claim 32, no claim
18 differentiation with Claim 32. Claim 32 doesn't even
19 reference sense outputs, and it doesn't add a limitation to
20 the term "sense output" that would have it adjusting circuitry
21 used to measure current.

22 So Claim 1 and Claim 32 would not have an identical
23 scope if you adopt our construction. There's just no basis
24 for the claim differentiation argument.

25 So then let me close by -- let me pull up slide 12.

1 The problem with their argument and their
2 construction is that they are saying a sense output can be an
3 output that makes adjustments to any circuitry in the voltage
4 feedback loop. So remember we talked about the pulse width
5 modulator, which maybe Mr. Lee can make this larger. It's 160
6 on the left, I believe.

7 That circuit, the pulse width modulator, has nothing
8 to do with sense circuitry. It doesn't sense current. It
9 doesn't sense anything. That's the thing that is making
10 adjustments within the regulator so that you get the right
11 amount of voltage.

12 And so under their construction, a sense output could
13 be an output that goes to the pulse width modulator that has
14 nothing to do with sensing, nothing to do with sense.

15 And if we could jump to slide 13, if that's the
16 construction, what does the term "sense" add to the claim? If
17 a sense output can be any output that adjusts any circuitry in
18 a current feedback loop, even if it's got nothing to do with
19 sensing, what does the term "sense" add to the claim?
20 Nothing. They're reading the term "sense" out of the claim,
21 and that is improper.

22 Thank you, Your Honor.

23 THE COURT: Thank you.

24 Anything else?

25 MR. DeROUIN: May I make one quick point?

1 THE COURT: Of course.

2 MR. DeROUIN: Opposing counsel makes the point
3 that -- they draw a box around the current sense circuit and
4 the adjustable sense amplifier, calling that collectively the
5 circuitry that measures current.

6 But as we've talked about, Claim 1 is broader. It
7 talks about making adjustments for different circuit
8 variations. One of those -- with that breadth, you could
9 correct for the bad current in the pulse width modulator,
10 drawing a bigger box.

11 So what opposing counsel is really saying is they're
12 drawing an arbitrary box around two components to make their
13 point. It supports their argument. But if you make that
14 adjustment in the pulse width modulator, that box gets bigger.
15 If you make it in the bridge, that box gets bigger. You can
16 draw that box around any components and say, well, those are
17 the components that measure current.

18 That's just not the case. The component that
19 measures current is the current sense circuit. That's the
20 only -- that's the only component that measures current. If
21 you start drawing the box bigger and bigger, we get into
22 problems; and that's the problem with the rationale that
23 opposing counsel is taking. They just choose two components,
24 where the patent has breadth to adjust other components that
25 don't actually measure current.

1 That's it.

2 THE COURT: Thanks.

3 MR. SUMMERSGILL: Your Honor, just very quickly on
4 that, our box is not arbitrary at all. What we're talking
5 about is the term "sense outputs," and we draw a box around
6 the two sense circuits: current sense circuit, adjustable
7 sense amplifier.

8 We've drawn the box around the sense circuits, which
9 is consistent with the term "sense output." They've drawn the
10 box around the entire current -- the entire current feedback
11 loop, which would include circuitry that has nothing to do
12 with sensing. Their box is arbitrary. Ours is very specific
13 and directed to the term at issue: "sense output."

14 THE COURT: Thank you.

15 Next?

16 MR. JEFFREY LOVE: Thank you, Your Honor. The next
17 term is "calibration data."

18 Also, I wanted to just clarify one thing. It was
19 Mr. James DeRouin who was arguing for plaintiff in the last
20 claim term. There was a reference to Jim Geringer, who is
21 also one of our colleagues on this case, but he's over there
22 in the corner.

23 MR. SUMMERSGILL: I apologize.

24 MR. DeROUIN: I take no offense.

25 MR. JEFFREY LOVE: So, first, let me start by

1 pointing out the difference between the two claim
2 constructions. The main difference is that in defendant's
3 construction, they want to tie calibration data to
4 temperature.

5 So here is the chart we submitted to the Court with
6 the various claim terms. So for calibration data, what they
7 add is "data that relates" -- well, the sense and droop
8 outputs, with temperature, and is used to adjust those outputs
9 as the temperature varies. So calibration data is then going
10 to be limited to temperature-dependent data.

11 And our position is that that's too broad, that
12 temperature should not be a requirement of Claim 1 or just of
13 the term "calibration data," that the patent in many places
14 uses "calibration data" more broadly.

15 And I'll start with, again, what I think is the most
16 pertinent portion of the patent, which is the dependent claim
17 that does say that you're going to have temperature tied to
18 the droop and the sense output data.

19 Let's see here. So if you look at -- so these are
20 the claims. Let's see if it will focus. It's a little hard
21 to read.

22 Is there a focus button?

23 Thank you. I appreciate it.

24 So if you look at Claim 9, it says the circuit of
25 Claim 1 -- meaning everything in Claim 1 -- where the

1 nonvolatile memory stores data for droop outputs and sense
2 outputs where the data is based on the load voltage input and
3 the temperature input. So that's where they add temperature.
4 They make it a requirement for at least some of the
5 calibration data.

6 Now, if you look at another, Claims 6 and 7, it talks
7 about the nonvolatile memory storing regulator performance
8 parameters -- so that doesn't have to be temperature
9 dependent -- or storing application-specific power curve data.

10 So the notion is "calibration data" throughout the
11 patent is used broadly to address many different types of
12 calibration data, to encompass it, anyway.

13 Let me give an example from -- you haven't heard much
14 about the provisional application, but I want to show you a
15 page now from the provisional application. So this is in the
16 record as document 144-1. And the provisional application has
17 got a number of embodiments, starting basically -- it's got a
18 number of additional figures, so starting at Figure 7 through
19 Figure 13. None of those have a temperature input, Figures 7
20 through 13.

21 And what this says -- and this is page 5 of the
22 provisional application. And it talks about adding, you know,
23 a droop output. So in Figure 7 -- Figure 13, rather, they add
24 a droop circuit.

25 And then, you know, it talks about creating

1 calibration data for the droop circuit. That calibration data
2 is not tied to temperature.

3 And then it says Figure 14 is the same as Figure 13,
4 except that a temperature sensor and calibration circuit has
5 been added, and the temperature sensor through an amplifier is
6 used to do the various things. So you get that added only in
7 one of the last figures in the provisional.

8 And this point is made by our expert, who submitted a
9 couple declarations on this issue. And so on this particular
10 point, I would direct the Court to, for example, Dr. Melvin's
11 declaration, which is document 115-5, where he says -- well,
12 I'll just put it on the screen.

13 So in paragraph 29 he said that the patent discloses
14 calibration data, and then in some embodiments disclosed in,
15 for example, the provisional application -- that's the 105
16 application -- only droop outputs are adjusted based on
17 temperature. So those are the pages I just referred to in the
18 provisional application.

19 And, similarly, if you go through the patent, you're
20 going to see a number of references to calibration data being
21 created based on temperature; and you'll see the word "may"
22 used with them. That's the point that it's optional.

23 And you also see the patent talking about problems
24 that aren't related to temperature, as we've mentioned many
25 times. They're related, for example, to just manufacturing

1 flaws. You make 10,000 of them. There's little differences.
2 How are you going to deal with those differences? That's not
3 a temperature problem. You don't solve that problem by
4 creating temperature-based calibration data.

5 And so this is column 1 of the patent, talking about
6 the problems. And as it does so, it talks about -- that there
7 is a high degree of variation due to changing environmental
8 conditions and over production lot variations. It's the
9 production lot variations. They just, you know, make them
10 slightly different, so you're going to have calibration data
11 for that. And similarly, line 55, they talk about processor
12 batch variations.

13 And so, you know, when it talks about the calibration
14 data in column 2, it will talk about, again, regulator
15 performance parameters and power curve data being stored in
16 the nonvolatile memory. And then it says the data stored in
17 the nonvolatile memory for the outputs may be based on the
18 temperature input. So, again, it's "may." And if you go
19 through the patent as a whole, you will find that it never
20 says the temperature always has to be used.

21 So this is column 6, for example. It says the
22 outputs may be based on the temperature input. And that's
23 after it talks about the nonvolatile memory storing regulated
24 performance parameters and application-specific power curve
25 data. So the calibration data is broader than that.

1 Here is columns 7 and 8, really the same points. You
2 know, the invention may sample the temperature input, may
3 create data that relates to temperature with the output stored
4 in the nonvolatile -- data stored in nonvolatile memory.
5 Again, any number of the steps may be omitted. It says the
6 methods may be repeated over a range of anticipated operating
7 temperatures.

8 So -- and then over here in column 8, it talks about
9 the adjustable sense amplifier may be adjusted by adjusting
10 the feedback gain and so forth, to balance or equalize the
11 load seen by each phase of the multiphase regulator. But it
12 doesn't say that temperature has to be used, you know, in
13 making those adjustments. And, again, it goes back to the
14 provisional, which has the embodiments in Figures 7 through 13
15 are making adjustments to the sensing, but they're not
16 temperature based. They're just designed to deal with
17 manufacturing variations.

18 That, in a nutshell, is our argument.

19 THE COURT: Thank you.

20 MR. JEFFREY LOVE: Thank you.

21 MR. HIRSCH: Good morning, Your Honor. Jordan Hirsch
22 for Intel.

23 Your Honor, I just want to respond right out of the
24 box to a couple of things that Mr. Love just said. He
25 mentioned Claim 9. Claim 9 doesn't use the words "calibration

1 data." He mentioned the provisional. Your Honor can look
2 through the provisional front to back; never mentions the
3 phrase "calibration data." He referred to manufacturing
4 variations and lot variations. The patent never uses the
5 phrase "calibration data" to refer to manufacturing or lot
6 variations.

7 And, as I'll explain, each and every time the patent
8 uses the specific phrase at issue, "calibration data," it does
9 so in the context of temperature, throughout every instance in
10 which the phrase is used in the specification.

11 Taking a step back, Your Honor, I agree with Mr. Love
12 that the dispute, to crystallize it for Your Honor, is whether
13 calibration data has a connection with temperature. Our
14 construction, Intel's construction, is that calibration data
15 is data that relates the sense and droop outputs that we
16 discussed this morning, with temperature, and is used to
17 adjust those outputs as the temperature varies.

18 The plaintiffs' construction is that calibration data
19 is simply data that's used in determining the droop and sense
20 output settings based in part on operating a circuit under
21 known conditions, without any connection with temperature.

22 In other words, what the dispute comes down to is
23 whether the calibration data relates those sense and droop
24 outputs with temperature or whether calibration data can be
25 any data that's used to determine the outputs without any

1 connection with temperature.

2 Now, this dispute comes up, to put it into some
3 context, from the plaintiffs' infringement contentions.
4 They've accused data in Intel's products that has no
5 connection with temperature of being calibration data. Our
6 position is, look, that's a -- that's a stretch. That's an
7 attempt to create an infringement read and stretch that
8 specific term, "calibration data," beyond what the patentee
9 said in the patent it means.

10 The term "calibration data" can be used in many
11 different contexts and can have different meanings. It may be
12 a term that Your Honor has heard in passing in other contexts.

13 We looked, for example, on Google. We typed in
14 "calibration data." And there are many different examples of
15 what calibration can be in different situations. For example,
16 smartphone companies use the term "calibration data" on their
17 websites to refer to data that's specific to tracking your
18 steps as you move throughout the day.

19 We found an acoustic software manufacturer that uses
20 the term "calibration data" to refer to data that's specific
21 to acoustical information, or acoustic information, pardon me.

22 We found a facility that tracks electromagnetic or
23 measures electromagnetic radiation and they use the term
24 "calibration data" to refer to data that's specific to
25 electromagnetic radiation.

1 So we submit that our job is to determine how the
2 '944 patent uses this specific phrase, "calibration data."
3 And *Phillips* tells us to do that, we've got to go to the
4 claims and we've got to go to the specification. And we
5 submit that when we do that, the claims, the specification,
6 even inventor testimony, makes clear that when the patentee
7 used this specific phrase -- not other terms that are in
8 Claim 9, not other terms that are in the provisional, but when
9 they use the phrase "calibration data," they did so to refer
10 to data that has this relationship with temperature.

11 To understand how the term is used, I think it's
12 helpful to go back to what the patent refers to as the problem
13 it's purporting to solve. If we look at column 1, line 66, to
14 column 2, line 4, the patent explains that a problem in the
15 prior art is inaccuracies due to temperature variations. As
16 temperature changed, current sensing measurements became
17 inaccurate and droop function became inaccurate.

18 The inventor testimony that we cited in our briefs
19 confirms that. We asked Mr. Hejazi, in the patent it states
20 that "in the prior art. . .changes in temperature could result
21 in inaccuracy in the droop function." He says, "Yes."

22 And we asked him, "What the '944 patent describes is
23 a purported solution" to that problem, to the problem of
24 "prior art regulators that could not regulate droop over
25 temperature?"

1 "Answer: Yes."

2 And the patent explains that it uses calibration data
3 to overcome this problem.

4 This is Claim 1, the only independent claim, as Your
5 Honor has heard. And Claim 1 specifically connects
6 calibration data with temperature. In fact, the only
7 calibration referenced in Claim 1 is calibration for
8 temperature. The claim first refers to receiving temperature
9 data. Then that temperature data is used to adjust -- meaning
10 calibrate -- the sense outputs and the droop outputs. And,
11 finally, the last limitation refers to using temperature to
12 calibrate the calibration data.

13 So the only calibration in the claim is temperature
14 calibration. And that makes sense. If the problem you're
15 trying to solve is an inability to change as temperature
16 changes, it makes sense that your solution is to calibrate for
17 temperature. But it also directly supports our construction.
18 If the only calibration in the claim is temperature
19 calibration, it follows that calibration data ought to relate
20 to temperature.

21 But there's another reason why the claims support our
22 construction and show that it is correct; and that's because
23 only by construing "calibration data" to have a connection to,
24 to relate to temperature, does the operation of Claim 1 make
25 any sense.

1 The claim first refers to memory that stores
2 calibration data. So under our construction, that's the data
3 that relates the sense and droop outputs with temperature and
4 is used to adjust those outputs as temperature changes.
5 Temperature data is then received.

6 And temperature data is just the measure of
7 temperature. As Mr. Rowan mentioned yesterday, maybe it's 52
8 degrees Celsius. It's just a temperature number. The claims
9 then refer, again, to using temperature data to adjust the
10 outputs.

11 Now, if you just have a number, an input that says 52
12 degrees Celsius, that doesn't tell the circuit what to do.
13 What do I do to my sense outputs, given that it's 52 degrees?
14 What do I do to my droop outputs, given that it's 52 degrees?
15 The temperature data alone doesn't tell you. But we have the
16 calibration data stored in the memory. That's the data that
17 tells you, okay, 52 degrees. Make your sense outputs 7. Make
18 your droop outputs 6. The claim makes sense.

19 Under plaintiffs' construction, if calibration data
20 can be data that has no relationship at all with temperature,
21 it falls apart. Then we have data in memory, calibration
22 data, that has nothing to do with temperature, doesn't tell
23 you what to do with your outputs depending on temperature.
24 Then when temperature comes in, when you get that 52 degrees,
25 you've got no way to know how to adjust your outputs. You've

1 got no data saying, okay, 52 degrees, make your sense output
2 6, make your droop output 7.

3 But we don't need to stop at the claims, because the
4 specification, as I mentioned, also directly, repeatedly
5 supports our construction.

6 This is from column 3. What I put on the screen,
7 slide 9, is column 3, line 54. This is in the Summary of the
8 Invention section of the patent. And the passage starts with
9 "The present invention." So it's talking about the invention.
10 And in the highlighted portion that I've shown on the screen,
11 it explains that in the present invention, we're going to
12 create data that relates temperature with the sense outputs
13 and the droop outputs. Again, that makes sense. That's the
14 point of the invention. The specification then repeatedly,
15 again and again -- and I submit to Your Honor, without fail --
16 refers to that data as "calibration data."

17 Column 5, line 31, again refers to "This invention,"
18 not an embodiment, not an example: "This is our invention."
19 And it states that it calibrates "droop and sense settings
20 over various temperatures" and then refers to that as "this
21 calibration data."

22 The specification goes on, Your Honor, to mention
23 the term "calibration data" seven additional times -- that's
24 it -- and each and every time, seven times, without fail,
25 connects calibration data with temperature.

1 Column 2, line 21, from the Summary of the Invention,
2 refers to calibration control circuit interfacing with
3 temperature to calibrate calibration data, connecting
4 temperature with calibration data.

5 Column 2, line 40, again from the Summary of the
6 Invention section, refers to data based on temperature and
7 then refers to that as "calibration data" in the next
8 sentence.

9 Column 4, line 29, again from the Summary of the
10 Invention section, refers to calibration data as having a
11 relationship with temperature.

12 It goes on in the detailed description of the patent
13 in four other instances, the specification refers to
14 "calibration data," each and every time connects it with
15 temperature.

16 Column 5, line 18, refers to "temperature-independent
17 droop settings," which the parties agree means droop settings
18 that are adjusted for temperature. It refers to it as
19 "calibration data."

20 Column 6, line 20, refers to the calibration control
21 circuit interfacing with temperature to calibrate calibration
22 data.

23 Column 6, line 37, refers to data based on
24 temperature and then refers to it as "calibration data."

25 And finally, column 8, line 24, refers to calibration

1 data that is associated with temperature.

2 Now, counsel made the point that sometimes the
3 specification uses the word "may." That's true. At other
4 times it doesn't.

5 For example, column 3, line 54; column 5, line 18;
6 column 5, line 31; column 2, line 22; column 6, line 20, are
7 all examples of references to "calibration data" without the
8 "may." And the claims don't use "may." The only -- the only
9 reference to calibration data in the claims is connected with
10 temperature.

11 But there's even more. We asked Mr. Hejazi, one of
12 the named inventors, "Calibration data is the data that
13 relates temperature with the sense outputs and temperature
14 with the droop outputs; is that right?"

15 His answer, unequivocal: "Yes, it relates to
16 temperature. And that's the point."

17 So at bottom, what we have are the words that the
18 patentee chose. They had the power of the pen. If they
19 wanted "calibration data" to mean any old data used to
20 determine sense and droop outputs with no connection to
21 temperature, they could have said so. They could have said so
22 in the claims. They could have said in the Summary of the
23 Invention. They could have said so in the detailed
24 description, and they never did. Instead, they did the
25 opposite.

1 The only calibration in the claims relates to
2 temperature. Each and every time the phrase "calibration
3 data" is used in the specification, in the Summary of the
4 Invention, in the detailed description, it relates to
5 temperature.

6 And I submit to you, Your Honor, that the public
7 ought to be able to rely on that. Someone picking up this
8 patent, reading it to figure out, all right. I know what
9 "calibration data" means when it's on the smartphone website.
10 I know what "calibration data" means for the acoustic software
11 manufacturer. What does it mean in this patent?

12 They ought to be able to rely on what the claims say.
13 They ought to be able to rely on how each and every time the
14 patentee used the term in the specification.

15 The Federal Circuit agrees. Again and again the
16 Federal Circuit has said, when the patentee uses a term
17 consistently, repeatedly, and exclusively to refer to
18 something, well, then that ought to be how we construe it.

19 I direct Your Honor's attention to the *Arista*
20 *Networks* case. It's a Federal Circuit case from 2018,
21 908 F.3d 792. In this case, the Federal Circuit was dealing
22 with technology that related to network device security. And
23 the patent talked about broadcasting changes to device
24 configurations. When you have a device that's hooked up to a
25 network and the configurations change, I'm going to broadcast

1 those changes to make sure there's no security issue.

2 And the Federal Circuit said, We're going to construe
3 the term "broadcast" to require multicasting, broadcasting to
4 multiple recipients. Multicasting wasn't in the claims. But
5 the Federal Circuit said, Look, the specification consistently
6 explains that that's what they meant. That's what
7 broadcasting here is. And, in fact, that's the only example
8 of what broadcasting means. So even if you don't have an
9 explicit definition, when you consistently, when you
10 exclusively refer to a term as having a particular meaning,
11 that ought to be how it is construed.

12 Another example for Your Honor's reference is the
13 *Rembrandt* case from 2017 in the Federal Circuit, 716 F.App'x
14 965 where the Federal Circuit said, We're going to construe
15 the claims to require automatic recovery of a computer system.
16 The claims didn't mention "automatic." But when that -- when
17 the patentee describes a feature in the Summary of the
18 Invention, in the detailed description, when the patentee
19 says, "This is what the present invention is," that ought to
20 be how the term is construed.

21 Let me briefly refer -- respond, rather, to the
22 arguments that the plaintiffs have made in their -- in their
23 papers and today.

24 Mr. Love pointed to the claim language and
25 specifically Claim 9 and appeared to be making a claim

1 differentiation argument. And, again, for context here, claim
2 differentiation would apply if under our construction Claim 9
3 had the same exact scope as Claim 1; and that simply isn't
4 true.

5 As an initial matter, Claim 9 doesn't refer to
6 "calibration data" at all. It talks about data for said droop
7 outputs and said sense outputs. They could have referred to
8 "said calibration data," which was mentioned in Claim 1, but
9 they didn't. They referred to data for sense outputs and
10 droop outputs.

11 In addition to that, Claim 9 has additional
12 limitations not in Claim 1, independent of what "calibration
13 data" means, because it refers to data for sense and droop
14 outputs that relates to temperature and the load voltage
15 input, an additional limitation, which again precludes the
16 application of claim differentiation here.

17 Furthermore, Claim 9 is actually consistent with our
18 construction. Claim 1 makes clear that the calibration data
19 relates temperature to sense and droop outputs, adjusts the
20 sense and droop outputs as temperature varies. Claim 9 then
21 says now, after we've done that, after the calibration data
22 has made those adjustments, now the data for the droop and
23 sense outputs, now that data also relates to temperature.
24 Claim 9 in no way suggests that calibration data in Claim 1
25 can be disconnected entirely to temperature.

1 Finally, in their papers, the plaintiffs referred to
2 some of the claims, the originally filed claims -- 47, 49, and
3 64 -- and made a claim differentiation argument. And I submit
4 that that argument fails for the same reasons. Claims 47, 49
5 don't even mention the term "calibration data." Each of the
6 originally filed claims that they referred to includes
7 limitations well beyond what is in Claim 1. And, even
8 further, none of these claims issued in the '944 patent, so
9 they could not possibly show that there's any dependent claim
10 issued in the patent that has the same scope as Claim 1 under
11 our construction.

12 Finally, a brief word on plaintiffs' construction.
13 As I mentioned, their construction would have "calibration
14 data" as any data used to determine the droop and sense
15 outputs, even if it has no connection with temperature. In
16 their papers they tried to find an embodiment where
17 calibration data is disconnected to temperature to support
18 their construction, and I submit they fail to do so.

19 They point to Claims 6, 7, 31, and 32 in their
20 papers. None of these claims mentions calibration data, let
21 alone suggests that calibration data can have no relationship
22 to temperature.

23 They refer in their papers to citations from column
24 5, line 56; column 5, line 25; column 7, line 38. None of
25 these citations refer to the phrase "calibration data," let

1 alone suggests that calibration data can be any type of data
2 used to determine the sense and droop outputs.

3 And, finally, they refer to the provisional
4 application to try to support their construction. But as I
5 mentioned, the provisional application does not use the phrase
6 "calibration data" a single time.

7 In conclusion, Your Honor, we submit that
8 "calibration data" ought to be construed as the Federal
9 Circuit has instructed us, consistent with the claims,
10 consistent with the specification, consistent with the
11 understanding of the named inventor. It ought to be construed
12 as the claims say, the specification says, the inventor
13 himself said, to have a connection with temperature.

14 Thank you.

15 THE COURT: Thank you.

16 MR. JEFFREY LOVE: All right. I've been challenged.
17 Let's see if I'm up to the task.

18 First off, the parties' proposed constructions for
19 "calibration data" is data that relates to the sense and the
20 droop outputs. You know, this is Intel's construction, and
21 ours is essentially the same. So for them to say that
22 Claim 9, which talks about the data stored in nonvolatile
23 memory for the sense and droop outputs, that that's not
24 calibration data, that's inconsistent with the parties' -- the
25 portions of the agreed construction of "calibration data," you

1 know, as to that part.

2 Second, they talk about the provisional -- here it
3 is -- application, and so I want to -- that nowhere does it
4 use the term "calibration data."

5 All right. So this is page 5 of the provisional
6 application, document 144-1 in the Court's system: Once all
7 the phases are calibrated, then the circuit will use the
8 calibration information at power up to re-adjust itself for
9 accuracy. I submit to the Court that is essentially a
10 reference to calibration data.

11 Page 4, that is the preceding part of that paragraph,
12 talks about creating the calibration data. It doesn't use
13 temperature. The provisional first starts out with creating
14 calibration data that's going to match the current among the
15 various phases.

16 If you'll recall the analogy during the tutorial of a
17 track meet, where you have the runners hand off the baton as
18 you're going around the lap so that they don't all have to run
19 the entire way, so if you have a multiphase regulator, those
20 are called different phases. But what can happen is, you
21 know, some -- if the phases are out of balance, then some
22 phases aren't doing their fair share of the work. So this
23 notion of balancing the power among the phases is an issue
24 that the patent, the invention addresses. And here you have a
25 description in the provisional application about how you go

1 ahead and create calibration data for that.

2 So when in calibration, only one phase will be active
3 at a time, and then you force the entire load current to go
4 through the active phase and you use a known load, so you know
5 what the load is supposed to be, and a known reference. And
6 then the calibration circuit uses that information, and
7 basically you see if it's inaccurate. And if it's inaccurate,
8 the counter counts up and down, changing the gain by small
9 steps, essentially, until it becomes accurate.

10 And then you've got your gain adjustment coefficient.
11 You're not using temperature for that. You're just dealing
12 with a manufacturing inaccuracy.

13 And after you do that, that is data that's then
14 recorded in nonvolatile memory. It's calibration information.
15 It's calibration data. It's not using temperature.

16 While that's one paragraph in the provisional, the
17 provisional -- you know, it starts with Figure 7, and it goes,
18 as I mentioned previously, all the way through -- through
19 Figure 13, without even having a temperature input or
20 temperature sensor in the figure. And then in Figure 14, they
21 add the temperature sensor. That's another embodiment.

22 Now, it's true that the patent, as I conceded
23 earlier, it does emphasize the best mode, you know, in detail,
24 as it has to. And in doing so, it focuses on the use of
25 temperature in the calibration data, but it consistently uses

1 the word "may" with respect to that or talks about it as
2 involving an embodiment.

3 So, for example, you were referred to column 3 of the
4 patent and then to this little portion at the end of column 3
5 that talks about methods of calibrating.

6 First off, note that this is talking about methods
7 of creating calibration data, essentially, calibrating the
8 calibration control circuit. But it talks about "The present
9 invention also embodies." You know, that's another way of
10 saying what the patent says repeatedly: Here's one
11 embodiment. Here's another embodiment. Here's another
12 embodiment. The invention encompasses all of these
13 embodiments.

14 So, for example, if you start up earlier, you know,
15 all of paragraph 3 is, you know, "in another embodiment," "in
16 another embodiment," "in another embodiment," you know, it's
17 just -- "in another embodiment." Every single paragraph
18 starts with "in another embodiment."

19 Now, I guess the patent drafter is being punished for
20 using a slightly different phrase in the last paragraph,
21 because he says, "The present invention also embodies," but
22 basically it means "in another embodiment." And so then it
23 will talk about using temperature.

24 The focus properly -- I mean, a terrific place to
25 focus on is Claim 1. I'm glad they talked about it some. You

1 look not just to the specification, but you start with the
2 claim itself. And they correctly point out that the claim
3 itself at various points uses the word "temperature."

4 So, for example, the last element is "The calibration
5 control circuit interfaces with said temperature input and
6 load voltage input to calibrate the calibration data stored in
7 nonvolatile memory."

8 So that's an issue. You know, temperature is
9 expressly used there. But what that means is -- first off,
10 it's not at issue in this claim construction hearing because
11 that was not a term that the parties sought to have the Court
12 construe. It does call for temperature to be used, but it
13 does so expressly. So it would be unnecessary, redundant, and
14 inappropriate to just import the use of temperature in the
15 phrase "calibration data," which doesn't require the use of
16 temperature until you get to Claim 9.

17 And, you know, I would say just the fact that they
18 don't call it "calibration data," they're talking about data
19 for the droop outputs and sense outputs as stored in
20 nonvolatile memory; and both parties are, in their
21 construction of "calibration data," saying it's the data in
22 the nonvolatile memory that's used for droop and sense
23 outputs. They're talking about the calibration data. And in
24 one embodiment they're saying you can have that data matched
25 up with temperature, but there are others, as our experts said

1 in their declarations, Dr. Melvin in both declarations on
2 file, that the provisional in particular talks about examples
3 where temperature data is not used to create the calibration
4 data. And it can be used after the fact, and the patent talks
5 some about that.

6 Thank you.

7 THE COURT: Thank you.

8 MR. HIRSCH: Your Honor, very, very briefly, two
9 quick points.

10 Again, with respect to Claim 9, Claim 9 does not
11 refer to calibration data. When drafting a claim, if you're
12 referring back to the data that has already been referenced in
13 Claim 1, you'd say "said calibration data." They don't.
14 They're talking about data for the sense and droop outputs.
15 After you've adjusted the sense and droop outputs using the
16 calibration data, then that data, the data for the sense and
17 droop outputs, not the calibration data, relates to
18 temperature. Claim 90 could not create a claim
19 differentiation. It doesn't refer to calibration data.

20 Finally, Mr. Love referred to embodiments and argued
21 that in only embodiments does calibration data relate to
22 temperature. I direct Your Honor's attention to column 5. In
23 the first full paragraph -- it starts at line 15 -- it refers
24 to "this invention," not an embodiment, not an example, but
25 "this invention."

1 Then at line 18, that paragraph refers to
2 temperature-independent droop settings. The last line of that
3 paragraph, line 28, refers to current that is shared equally,
4 regardless of temperature.

5 And in that next paragraph, starting at column 5,
6 line 31, again, referring to "this invention," it states that
7 "This calibration data is the data that calibrates the droop
8 and sense settings over various temperatures," not an example,
9 not "may," "this calibration data."

10 Thank you, Your Honor.

11 THE COURT: I have a question for you. What
12 information, from your perspective, is stored in the
13 nonvolatile memory? Is it only calibration data?

14 MR. HIRSCH: No, there can be other data stored in
15 nonvolatile memory.

16 For example, in Claim 9 it's talking about
17 nonvolatile memory can also store this data for droop outputs
18 and sense outputs. When the claims meant to say "calibration
19 data," they did. That is something else that can be stored in
20 the nonvolatile memory.

21 THE COURT: And from your perspective, that doesn't
22 matter to the claim construction which you're proposing?

23 MR. HIRSCH: What's stored in nonvolatile memory?

24 THE COURT: Right.

25 MR. HIRSCH: It only matters in the sense that there

1 are portions of the specification that explain that the data
2 that can be stored in nonvolatile memory -- calibration
3 data -- has this relationship with temperature. Our
4 construction doesn't require the data to be stored in
5 nonvolatile memory if that is what Your Honor is asking.

6 THE COURT: My question is: If other things can be
7 stored in nonvolatile memory, is the stuff that's in the
8 nonvolatile memory also calibrated?

9 MR. HIRSCH: I'm sorry. Also --

10 THE COURT: The other things in the nonvolatile
11 memory -- for example, outputs that they're getting regarding
12 current and voltage -- if that information and data is also
13 stored in the nonvolatile memory, is there a calibration that
14 occurs as regards those things as well?

15 MR. HIRSCH: The other data?

16 THE COURT: Correct.

17 MR. HIRSCH: I think that is separate from our
18 construction. Our construction wouldn't require one way or
19 another.

20 THE COURT: So from your perspective, it doesn't
21 matter.

22 MR. HIRSCH: If other data, other than calibration
23 data, is calibrated? I think that's right.

24 THE COURT: Thank you.

25 MR. HIRSCH: Thank you, Your Honor.

1 THE COURT: Next.

2 MR. SUMMERSGILL: Your Honor, we're going to turn to
3 the next term, which is "said temperature data is used by said
4 calibration control circuit to adjust said sense outputs and
5 said droop outputs."

6 If we could pull up slide 2, please.

7 So the term at issue is "said temperature data is
8 used by said calibration control circuit to adjust said sense
9 outputs and said droop outputs." And we underscored the word
10 "and" for a reason that will become clear.

11 If we turn to slide 3, Intel, we propose to construe
12 this term to have its plain meaning, that "the calibration
13 control circuit uses the temperature data to adjust both the
14 sense outputs and the droop outputs."

15 Plaintiffs, in contrast, are proposing to change the
16 meaning of the limitation, to insert the phrase, "one or
17 more," such that temperature data need only be used to adjust
18 one or more sense outputs or droop output settings.

19 So if we pull up slide 4, the parties' primary
20 dispute regarding the construction of this term is whether the
21 word "and" in the claims means "and" or whether it can also
22 mean "one or more."

23 Now, in their reply the plaintiffs tried to argue
24 that there is no dispute over the word "and." What they wrote
25 in their reply -- this is at page 24 -- is "There is no

1 controversy surrounding the meaning of 'and.'"

2 But if we could put up slide 5, that's precisely what
3 the dispute is. So on the left we have the claim language,
4 and on the right we have plaintiffs' claim construction
5 arguments.

6 So on the left the claim language requires "and."
7 On the right, plaintiffs argue -- this is from their
8 briefs -- "The disputed phrase" -- i.e., the phrase we have on
9 the left -- "only requires that temperature data to be a
10 factor in changing at least one of the droop and sense
11 outputs, but not necessarily changing both."

12 And then at page 23 they say, "Nothing in the
13 intrinsic evidence" -- i.e., the claims and the
14 specifications -- "mandates that both sense and droop output
15 settings change based on temperature data."

16 So the dispute really is what the meaning of the
17 term "and" is. And we submit to Your Honor that "and" means
18 "and."

19 So let's turn to slide 6.

20 As we said, the claim term itself states that
21 temperature data is used to adjust sense outputs and droop
22 outputs. Again, "and" means you've got to do both things.
23 Simply put, "and" means "and."

24 And, in fact, the Federal Circuit has addressed this
25 very question in the *Leseman v. Stratus* case that we cited in

1 our brief. This is on slide 7. They addressed this precise
2 issue. There were two limitations and there was an "and."
3 And the Court held that the word "and" is conjunctive; and, as
4 a result, those two elements that are separated by the "and"
5 are both required. What it said was the second/third die
6 component must both be received within a downstream side of
7 the first/second die component and have this required
8 position.

9 Now, at the beginning of the argument, the plaintiffs
10 explained that Mr. Love, Mr. Flack, and Mr. DeRouin would be
11 arguing. And that meant all three of them would be arguing,
12 presumably not just that Mr. Love would argue. "And" means
13 "and."

14 Second, turning to slide 8, our proposed construction
15 is consistent with the specification. And I'll go through
16 this relatively quickly, but column 9, lines 25 to 27,
17 explains that the calibration control circuit controls the
18 adjustments to the droop amplifier via the droop output and
19 the sense amplifiers via the sense outputs.

20 And then at lines 50 to 52, the same column, it says
21 that the controller interfaces with nonvolatile memory that
22 holds temperature-dependent settings of the droop output and
23 sense outputs, both indicating that it's making adjustments
24 for both droop and sense.

25 If we could jump to slide 9, please, to the extent

1 there was any question, we also asked the inventor, the
2 non-plaintiff inventor, about this, and he confirmed it as
3 well. This is from his deposition.

4 "Question: Okay. So in your view, the high-level
5 idea of the '944 invention is simply calibrating a current
6 sensing circuitry and separately calibrating a droop function?
7 Do I have that right?

8 "Answer: Yes, and obviously we discussed earlier
9 about the temperature."

10 Now, the plaintiffs' primary argument in their brief
11 with our construction is they argue we're reading out some
12 embodiments where only the droop is adjusted, and they say we
13 read that out.

14 If we could pull up slide 10, please.

15 And they cite to this portion of the specification
16 in support of that argument. And this portion of the
17 specification states that "This invention is a new and
18 innovative active current sharing application that can result
19 in near perfect current match across phases of a multiphase
20 regulator."

21 And then in the next sentence it says that "This
22 invention also provides accurate temperature-independent droop
23 settings that can be programmed for the field." And they
24 point to that and say, Look, this is an embodiment in which
25 only droop is adjusted for temperature.

1 The problem with this argument, if we can add the
2 rest of the text, is that they simply deleted or omitted --
3 unintentionally, I'm sure -- but left out the portion that
4 refers to the sense being adjusted for temperature.

5 So it goes on to say, "The disclosed circuit is
6 digitally calibrated to compensate for the inaccuracies of the
7 current sensing elements." And then it says, "The current
8 sensing mechanism is adjusted by the calibration parameters,
9 such that the overall gain of the sensing mechanism in all
10 phases may be matched and the total current across all phases
11 is shared equally regardless of the temperature."

12 So this portion talks about adjusting the droop for
13 temperature and it talks about the fact that you can achieve
14 near perfect current match across all phases; in other words,
15 you've got multiple different current sense circuits sensing
16 current in different phases, and you can achieve near perfect
17 current match across, regardless of the temperature, because
18 you're making adjustments for temperature.

19 So this is not an embodiment in which only droop is
20 being adjusted. It is another embodiment in which both sense
21 and droop are being adjusted.

22 So I'll turn to slide 15, please, and I'll close with
23 this.

24 Again, the claim language is "and." You have to use
25 the temperature data to adjust both the sense outputs and the

1 droop outputs. And the plaintiffs are arguing that "and" can
2 mean "one or more," and that is just incorrect. They read the
3 "and" -- they're trying to rewrite the claim to remove the
4 "and" from the claims.

5 THE COURT: Thank you.

6 MR. SUMMERSGILL: Thank you, Your Honor.

7 MR. FLACK: Good afternoon, Your Honor. Ronnie Flack
8 for the plaintiffs.

9 I'd like to start by just addressing something that's
10 not been addressed by the other side, and this kind of weighs
11 heavy with what we've talked about all morning. Both sides
12 have cited the *Continental Circuits v. Intel* case and talked
13 about how dispositive the specification is.

14 Something we pointed to our in our reply brief was
15 the fact that on column 4, line 63, of the '944 patent, it
16 states that "All conjunctions used are to be understood in the
17 most inclusive sense possible." The specification tells us
18 exactly how to understand "and." There should be no
19 disagreement over how to understand "and" in the most
20 inclusive sense possible.

21 So that's not addressed in the briefing by Intel and
22 not addressed by Mr. Summersgill so far. And that -- again,
23 that is problematic for them because that's giving the
24 specifications guiding us to how to interpret Claim 1.

25 And further in the specification, aside from just

1 that guide there, the specification, as you've heard a number
2 of times today, uses the word "may" a number of times to
3 discuss embodiments and uses this type of permissive language
4 when discussing adjusting based on temperature.

5 And so if we're looking at the specification with
6 "may" and this kind of guide that the "and" needs to be the
7 most inclusive version of "and," then it seems to me that the
8 plaintiffs are arguing that "and" needs to be joint and
9 several rather than just joint, and that's going to be the
10 most inclusive version of "and."

11 And while on my opponent's slides, they kind of like
12 to highlight that we are saying "one or more sense output and
13 droop output settings," we're still saying "sense and droop
14 output settings." The "and" is still there. Our construction
15 just adds a modifier or qualifier in front of "and" to give it
16 the broadest meaning possible, the most inclusive meaning
17 possible, the same way that they added "both" to the sentence
18 that they said was plain meaning.

19 So by adding a qualifier in front, we're not trying
20 to change the claim language, we're not trying to rewrite the
21 claim language. We're just trying to follow the specification
22 that says "and" is to have the most inclusive sense possible.

23 Also in the specification, if we're -- maybe the
24 specification isn't as clear as to how that sentence -- that,
25 you know, we are to construe conjunctions as broadly as

1 possible, the specification gives us, right after that, right
2 after column 4, line 64, it gives us an example of "or." It
3 says that whenever you see the word "or," as an example, it
4 says that you construe "or" to be understood as having the
5 definition of a logical "or" rather than the illogical
6 exclusive "or." So it's telling you that any time there's a
7 question on exclusivity, you're going to take the broader
8 version.

9 Now, the one thing that I find that is very
10 interesting about the parties' use of "and" in their own case
11 is you can look at -- and I'm happy to -- if you look at
12 Intel's own instructions in discovery requests, they actually
13 state, "The connectives 'and' and 'or' shall be construed
14 either disjunctively or conjunctively, whichever makes the
15 request most inclusive."

16 There should be no dispute among everyone here that
17 when we're saying "and" is the most inclusive version of
18 "and" --

19 THE COURT REPORTER: I'm going to ask you to slow
20 down and repeat.

21 "There should be no dispute among everyone here" --

22 MR. FLACK: -- that the most inclusive version of
23 "and" is going to be joint and several. So it would be "sense
24 or droop" or "sense and droop."

25 THE COURT: You're asking me to use Intel's

1 discovery requests in order to determine how to construe a
2 patent claim?

3 Because if I start looking at discovery requests,
4 I'm going to go down all kinds of different rabbit holes that
5 you don't want me to explore, right?

6 MR. FLACK: Your Honor, that's absolutely correct.

7 I was using that as an example that we do understand
8 it can be a broader term, and "and" can be understood to be
9 broader.

10 THE COURT: Okay. Thank you.

11 MR. FLACK: Yes, Your Honor.

12 And so with that understanding, I think that it's,
13 you know -- I think that -- I think that "and" should be
14 construed broadly, in its most inclusive sense.

15 One thing I would like to address is a few points
16 from Intel's cases. You know, they give you the *Leseman* case,
17 the Federal Circuit 2018 case, as case law saying "and" means
18 how it's described in the case. However, as I noted earlier,
19 the patent at issue in that case does not contain the same
20 specification language that instructs conjunctives are to be
21 used broadly. So that becomes problematic in trying to use
22 that case to construe the language here in the patent that
23 clearly provides guidance on how to understand it.

24 One other thing that I would like to just clear up
25 for the Court -- I'm sure it was unintentional. They referred

1 to the '944 patent, column 5, lines 16 through 30. And I just
2 want to clarify for the Court that on that particular
3 point -- oh, there we go. It's a small detail, but I think it
4 does weigh to some importance. There was actually a misquote
5 on their slide and what they were talking about. The last
6 sentence of that statement actually says, "regardless of
7 temperature or the load."

8 THE COURT: I'm sorry. Where are you?

9 MR. FLACK: It's right here at the bottom
10 (indicating).

11 THE COURT: Okay. Thank you.

12 MR. FLACK: And so the slide that they had up
13 actually had "of" there, which kind of changes the meaning.
14 And I think the "or" is indicative of the idea of the patent,
15 something we've been talking about today.

16 The patent discusses, even in the abstract, even in
17 the Summary and the Background of the Invention, that there
18 are problems with manufacturing variations -- a common theme
19 we've heard -- and temperature variations. So the idea that
20 you can't -- the idea that you have to have both --

21 THE COURT REPORTER: I need you to slow down. I
22 couldn't understand you.

23 "The idea that you have to have both" --

24 MR. FLACK: -- temperature -- you have to have
25 temperature to adjust both sense outputs and droop outputs

1 would -- would exclude any embodiments where only one of those
2 may need to be adjusted based on temperature and the other one
3 could be adjusted --

4 THE COURT: Just relax.

5 MR. FLACK: I'm sorry.

6 THE COURT: You talk so fast I can't keep up with you
7 myself.

8 MR. FLACK: I apologize. I will take a deep breath.

9 THE COURT: Yeah, take your time.

10 MR. FLACK: Okay. That the sense and droop -- it
11 would exclude embodiments where the sense outputs or the
12 droop -- one of the sense outputs or the droop outputs, only
13 one may need to be adjusted based on temperature, and the
14 other one could be adjusted for manufacturing variations. So
15 that's why the "and" needs to be construed broadly for those
16 kinds of constructions and embodiments.

17 And that's why, you know, as we've talked about a
18 number of times, the patents, you see language referred to as
19 "may" and as permissive, because that is kind of guiding us
20 that it doesn't always have to be -- both do not always have
21 to be adjusted based on temperature.

22 And one last thing that I would like to just put up,
23 just to kind of go over, is there was a phrase in the -- this
24 is in the Background of the Invention, in column 1. They
25 focus on this, starting at this phrase right here, "another

1 phenomenon affecting current sensing circuit" -- and of
2 course, "another phenomenon." There is a first phenomenon,
3 which is referred to earlier, that is the manufacturing
4 variations in this paragraph, that these elements have a high
5 degree of variation from one to another, over changing
6 environmental conditions and over production lot variations.

7 And it says that these -- historically using these
8 elements to sense current causes a mismatch in the current
9 between the phases, and there are no reasonable solutions to
10 this mismatch.

11 So, again, variations and temperature both, that's
12 the issue. And so the idea -- I think the heart of all of
13 these discussions so far have been whether the patent is
14 simply covering temperature or whether it's broader and covers
15 both manufacturing variations and temperature variations.

16 So based on that, we request that the Court adopt
17 the plaintiffs' construction and construe "and" in the most
18 inclusive sense possible.

19 THE COURT: Thank you.

20 MR. FLACK: Thank you, Your Honor.

21 MR. SUMMERSGILL: Your Honor, three very quick
22 points.

23 First, as to the column 4 language that says that all
24 conjunctions must be construed in their most inclusive manner
25 possible, well, fine, but "and" still can't make equal "one or

1 more." "And" does not equal "more." "And" equals "and."

2 Second, if we put up slide 3, Mr. Flack said when
3 they added "one or more" to the claims, it didn't change the
4 meaning of the claims, it didn't undo the "and." Well, then
5 why did they add it if it doesn't change the meaning of the
6 claims?

7 And, finally, slide 6, which is the claim language,
8 Mr. Flack just said that the claims don't require that both be
9 adjusted for temperature; that, instead, one of them could be
10 adjusted just for manufacturing variations. That's directly
11 contrary to the claim language, which says that the
12 temperature data is used to adjust said sense outputs and said
13 droop outputs.

14 Thank you.

15 MR. JEFFREY LOVE: Your Honor, I think you scheduled
16 us to close up shop in about 10 minutes, so I will stick to
17 that schedule and go through this one briefly, unless you
18 indicate otherwise.

19 MR. SUMMERSGILL: And could I just ask, if we are
20 going to stop right at 1:00, that Mr. Love could use five
21 minutes, and then Mr. Zubler could use the other five minutes.

22 THE COURT: Sure.

23 MR. SUMMERSGILL: Thank you.

24 MR. JEFFREY LOVE: It will be five minutes to get the
25 camera going, and then you're up.

1 All right. So this -- the issue here is that you'll
2 see in Claim 1 --

3 THE COURT: What term are we looking at?

4 MR. JEFFREY LOVE: I'm going to put it on our screen
5 here. Actually I've got to find the -- pardon me.

6 We'll go with this one. Claim 1, it says, "The
7 calibration control circuit interfaces with the nonvolatile
8 memory to store calibration data."

9 And the parties' differing constructions of that, it
10 turns on whether, when it says "to store calibration data" and
11 it doesn't say to -- where you store it, whether you should
12 import into that the idea that it can only be stored in
13 nonvolatile memory, even though it doesn't say that. And
14 he'll have his arguments as to why.

15 So sorry about this. This is my sloppy copy. But
16 what we've got is "The calibration control circuit
17 communicates with nonvolatile memory to store calibration data
18 in any memory." And they have it "writes the calibration data
19 into nonvolatile memory." So those are the two different
20 constructions.

21 And, obviously, my main argument is that it doesn't
22 say where you store it, so you can store it anywhere. It
23 doesn't create that limitation.

24 And while they point out they're going to -- in their
25 briefs that the patent often talks about storing data in

1 nonvolatile memory, it doesn't always, you know. And so I
2 just wanted to point out that here's column 5. At the end of
3 column 5 -- well, first off, up above, in the middle, it says,
4 "This calibration data may be stored in nonvolatile memory,"
5 so, again, showing that it's an option.

6 THE COURT: Why does this all matter? What is this
7 issue, from your perspective? Why is this important to the
8 Court?

9 MR. JEFFREY LOVE: Well, because we've got a claim
10 that -- that talks about taking -- actually a claim element
11 that is not -- we haven't asked it to be construed. It's the
12 last one where you take the calibration -- you calibrate the
13 calibration data.

14 And we understand that to mean that you've got this
15 controller in the calibration control circuit. It's basically
16 the computer running the program. And it's going to take that
17 calibration data, and then it's going to adjust it, calibrate
18 it, based on various inputs, as stated in the last element.

19 And when it does that, when a processor is going to
20 get data from nonvolatile memory, calibration data, a
21 processor has to store it somewhere. And so the way these
22 things are going to work is it's going to store it in
23 nonvolatile memory.

24 THE COURT: Yeah, but in the context --

25 MR. JEFFREY LOVE: In volatile memory, rather.

1 THE COURT: In the context of your litigation, what
2 is this important for? Why is it that this is important to
3 you?

4 MR. JEFFREY LOVE: Well, because if -- you know, if
5 they get the patent to say, okay, it's going to -- the
6 calibration control circuit is going to get the calibration
7 data and make adjustments to it and then store it again in the
8 non -- nonvolatile memory -- nonvolatile memory sometimes
9 fuses. You know, those are written to once. You don't
10 overwrite them. Or it could be other types of memory where
11 you can't -- you can't write new information to them after the
12 chip is made.

13 And what these claims are addressing is adjustments
14 to that calibration data that are made on the fly, dynamic
15 calibration. So you heard a little bit about two kinds of
16 calibration, that there's calibration at the factory, and then
17 there's dynamic calibration as situations are changing. The
18 temperature might be rising in the chip, other things
19 happening.

20 And so what you have is a processor in that
21 calibration control circuit that's going to get some of that
22 old calibration data, and then it's going to take those
23 current conditions, whether it's temperature or other things,
24 and it's going to start cooking with it. It's going to be
25 calibrating or adjusting the calibration data and using that

1 to be the sense and the droop outputs.

2 And they want to throw a wrench in our machinery by
3 saying, oh, no, the processor, when it's storing the adjusted
4 calibration data, it has to be storing new data to whatever
5 the nonvolatile memory is, which may be impossible, you know,
6 in effect, because that's just not how processors work.

7 And so you'll see in our --

8 THE COURT: So the reason it's important to you is
9 because from their perspective if it isn't stored in the
10 nonvolatile memory, there isn't infringement? Am I --

11 MR. JEFFREY LOVE: Yes.

12 THE COURT: -- saying that correctly?

13 MR. JEFFREY LOVE: That's correct.

14 THE COURT: That's what I wanted to get at.

15 MR. JEFFREY LOVE: I'm sorry. I'm sorry.

16 I would say that's almost a theme of almost every
17 single dispute.

18 THE COURT: Now tell me why.

19 MR. JEFFREY LOVE: And so why is because when it
20 doesn't say that it stores it in nonvolatile memory in the
21 patent, and including the patent claims, when it wants to say
22 that you're going to write data to nonvolatile memory, you do
23 so.

24 So here, for example, if I can get it to
25 focus -- there you go -- you've got Claim 19, for example.

1 It talks specifically about writing to nonvolatile memory.
2 Similarly, in the spec it often talks about writing or storing
3 in nonvolatile memory. But they don't do that in this claim
4 term that we're dealing with, this Claim 1.

5 And there's one -- I know I've got to go, so I just
6 want to make one parting --

7 THE COURT: That's okay. I asked you some questions.
8 I'll give you a little more time, and I'll give them some more
9 time.

10 I like to pretend I'm in the Court of Appeals. They
11 do that.

12 MR. JEFFREY LOVE: Everyone has like 45 minutes.
13 They have nothing else to do that day.

14 So I'd like to direct your attention to the reply
15 declaration of Intel's expert, so it's document 146-5. And
16 he's talking about something else, but he says something
17 helpful, I think, to this issue. So paragraph 40, they're
18 talking about the word "store."

19 And then he says at the end, page 13, "Computer
20 scientists routinely refer to storing data in memory
21 generally, not limited to volatile memory," and then he cites
22 to certain things. Well, not limited to, but not limited to
23 nonvolatile memory either. And that's what you have in this
24 claim term. You have storing generally, not limited to
25 nonvolatile memory, so it shouldn't be construed with that

1 limitation.

2 THE COURT: Thank you.

3 MR. ZUBLER: Good afternoon, Your Honor, Todd Zubler
4 for Intel Corporation.

5 You asked the question, to start off, why does this
6 matter? It matters, I think, Your Honor, for two reasons.
7 First of all, it matters because the claim says and refers to
8 one type of memory, nonvolatile memory. The dispute is
9 whether data can be stored in any memory or nonvolatile
10 memory, but the claim mentions only nonvolatile memory. The
11 claim specifies a lot of different things that have to be in
12 the infringing system, but it mentions only one type of
13 memory, nonvolatile memory.

14 And the reason it matters, then, for this case is
15 because the plaintiffs realized early on in this case that
16 this limitation would have required nonvolatile memory. If
17 you read their Complaint, paragraph 51, they accused us of
18 infringing based on storage of calibration data in nonvolatile
19 memory. There's no mention in their Complaint of storing data
20 in other types of memory.

21 Then discovery proceeded. They discovered that the
22 thing that they accuse of being the calibration control
23 circuit, they found out that that structure doesn't store any
24 data -- calibration data or otherwise -- in nonvolatile
25 memory. That's why we're here. That's why this matters.

1 If I could -- I'll just be brief and flip to the key
2 points.

3 The basic point here is that they are hypothesizing,
4 the plaintiffs are hypothesizing that this claim can be
5 infringed by some type of memory that isn't mentioned in the
6 claims, as I mentioned before, that's never mentioned in the
7 specification as holding calibration data, and that actually
8 would run totally counter to all the textual clues and
9 information we have in the claim.

10 So if we could go to slide 8 real briefly, which is
11 the claim language, the claim language starts by saying that
12 "the calibration control circuit includes an interface with
13 nonvolatile memory." So we know that the calibration control
14 circuit talks to nonvolatile memory.

15 And then it has three limitations that talk about
16 calibration data and where that fits in. And the first
17 limitation that's highlighted, after the preamble, says, "said
18 nonvolatile memory stores calibration data." So we know that
19 calibration data needs to be in nonvolatile memory.

20 The second highlighted limitation explains how that
21 data gets into nonvolatile memory. It says, "The calibration
22 control circuit interfaces with the nonvolatile memory to
23 store the calibration data."

24 Those two functions are totally tied together. The
25 calibration control circuit has to interface with the

1 nonvolatile memory. Why? So it can store calibration data.

2 Mr. Love's argument would effectively read out, I
3 think, the "interface with said nonvolatile memory" language
4 here. He would just say the said calibration control circuit
5 stores calibration data. It doesn't matter where. It doesn't
6 matter how.

7 That language of interfacing with said nonvolatile
8 memory is really important. The natural reading of that is
9 that the calibration control circuit interfaces with the
10 nonvolatile memory to store the calibration data there.

11 And we're not done. The very last limitation that's
12 highlighted at the bottom talks now about what happens to that
13 calibration data that's in the nonvolatile memory. And this
14 limitation says the calibration control circuit, it interfaces
15 with the temperature input and the load voltage input to do
16 what? To calibrate the calibration data. And where is that
17 calibration data? It's, again, stored in nonvolatile memory.

18 So the only reference in the claims to any type of
19 memory of all the different structures that are included, the
20 only type of memory is nonvolatile memory.

21 That reading is entirely consistent and fully
22 reinforced by the specification, which talks only about
23 storing calibration data in nonvolatile memory. There is
24 never an embodiment that discusses storing calibration data in
25 volatile memory. We have a couple examples here. The patent

1 refers to "the controller," which is part of the calibration
2 control circuit, it stores the data in nonvolatile memory.

3 And, you know, I would just refer you to -- this is
4 actually an important part of the invention. The inventors
5 that we deposed, the non-plaintiff inventors, talked about the
6 importance of having nonvolatile memory, having the
7 calibration data in nonvolatile memory, because it can be
8 reused.

9 And, real briefly, just to address Mr. Love's -- a
10 couple points of his, I'll advance to slide -- this is slide
11 No. 14, for the record.

12 Mr. Love advanced a theory or an argument that there
13 is a claim differentiation problem again here, that we are
14 effectively reading Claim 19 to refer to the same thing that
15 we're talking about in Claim 1, because Claim 19 talks about
16 an external controller that can write to nonvolatile memory.

17 Totally different context, Your Honor. There is no
18 claim differentiation. Remember, claim differentiation is a
19 doctrine that prevents two claims from being duplicative. And
20 if our construction did make two claims duplicative, that
21 would be a problem with it. Our claim construction doesn't do
22 that. Our claim construction refers to how the calibration
23 control circuit, what it stores to nonvolatile memory. And,
24 most importantly, Claim 19 doesn't mention writing calibration
25 data at all. It's really just talking about writing data of

1 any kind to nonvolatile memory. It's not talking about
2 calibration data.

3 And so, finally, Your Honor, I would just make the
4 general point again that the memory that they're
5 hypothesizing, that they're kind of making up, into which
6 calibration data can allegedly be stored, it's a data that's
7 not in the claims, it's never mentioned in the specifications
8 as holding calibration data. And it would effectively read
9 out that language in the claims that says that the calibration
10 control circuit interfaces with nonvolatile memory to store
11 calibration data.

12 THE COURT: Thank you.

13 MR. JEFFREY LOVE: Briefly?

14 THE COURT: Sure.

15 MR. JEFFREY LOVE: There we go. Claim 1.

16 So the last element there that Intel's counsel
17 referred to, "the calibration control circuit interfaces with
18 the temperature input and the load voltage input to calibrate
19 the calibration data stored in nonvolatile memory," we agree
20 there's nonvolatile memory referenced in the claim, and it
21 stores calibration data.

22 But how is the control circuit going to calibrate it?
23 The calibration control circuit is going to do that because it
24 has essentially a processor, a processor inside it that can
25 run an application, run a program. So what it has to do is

1 fetch the data and then made adjustments to it.

2 It fetches it from, in the words of the tutorial, the
3 safe in the basement. You know, it goes down and has to get
4 that calibration data from nonvolatile memory. And then it's
5 got to run its program. It can't run its program without
6 storing that in -- almost always in volatile memory. That is,
7 it puts it on the kitchen shelf to start cooking with it.

8 And that's what Dr. Melvin talks about in both of his
9 declarations on this point. And that's why, when it says that
10 "the calibration control circuit interfaces with the
11 nonvolatile memory to store calibration data," it is
12 interfacing with the nonvolatile memory, but it's doing it in
13 order to essentially fetch the calibration data and store it
14 in any memory; and really, as a practical matter, it's going
15 to be stored in volatile memory.

16 And when they say that the patent never talks about
17 storing things in volatile memory, well, again, this was
18 column 5 that I referred to before, at the bottom of it. It
19 does refer to "the data may be stored in memory." That's a
20 general term that, as their own expert acknowledges, can refer
21 to volatile or nonvolatile memory.

22 And Dr. Melvin, in his declaration, states that it's
23 inherent in the controller, that's part of the calibration
24 control circuit, which is either going to be a processor or a
25 state machine, that is inherent that to do its job, it's going

1 to be storing data in volatile memory, you know, so that it
2 can cook with it.

3 Thank you.

4 THE COURT: But that's true universally. If there's
5 a processor, there's volatile memory.

6 MR. JEFFREY LOVE: Yes. Yes.

7 So this is saying -- this is talking about the step
8 of the calibration control circuit interfacing with the
9 nonvolatile memory -- that is, to store calibration data --
10 meaning to fetch the data, to store it. And then what does it
11 do with it? Then you have the last element where it's going
12 to calibrate, calibrate the calibration data.

13 THE COURT: Thank you.

14 MR. ZUBLER: Just one thing, Your Honor.

15 THE COURT: Go ahead.

16 MR. ZUBLER: Mr. Love just advanced the argument that
17 the calibration data can be stored in volatile memory and
18 advanced different reasons why you might want to do it. None
19 of that is in the claims. None of that process he talks
20 about, storing calibration data in volatile memory, is
21 mentioned in the specification. We think their construction
22 is a very strained reading with no support in the claims or
23 specification.

24 THE COURT: Thank you.

25 I will take this case as submitted and place it under

1 advisement.

2 Thank you very much. We are in recess.

3 COUNSEL: Thank you, Your Honor.

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6 (Proceedings concluded.)

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I certify, by signing below, that the foregoing is a correct transcript of the record of proceedings in the above-titled cause. A transcript without an original signature, conformed signature or digitally signed signature is not certified.

/s/ Nancy M. Walker

7-15-19

NANCY M. WALKER, CSR, RMR, CRR
Official Court Reporter
Oregon CSR No. 90-0091

DATE

•	97:20, 97:23, 98:3, 100:14, 115:19, 138:19	301 [1] - 2:22
'944 [8] - 35:15, 56:18, 103:2, 103:22, 112:8, 124:5, 126:15, 130:1 'and [1] - 122:1 'and' [1] - 128:13 'or' [1] - 128:13	14 [5] - 26:1, 45:15, 98:3, 115:20, 142:11 140 [8] - 83:18, 85:11, 85:19, 85:20, 86:13, 91:14, 91:15, 91:19 143 [1] - 79:13 144-1 [2] - 97:16, 114:6 146-5 [1] - 138:15 15 [5] - 16:12, 46:7, 71:3, 118:23, 125:22 150 [2] - 85:25, 91:20 16 [3] - 46:12, 75:2, 130:1 160 [1] - 93:5 1600 [1] - 2:4 18 [7] - 30:12, 30:15, 46:22, 107:16, 108:5, 119:1 18-cv-326 [1] - 3:5 1875 [1] - 2:16 19 [5] - 30:14, 137:25, 142:14, 142:15, 142:24 190 [2] - 65:22, 85:24 1:00 [1] - 133:20	31 [6] - 31:19, 31:20, 106:17, 108:6, 112:19, 119:6 32 [8] - 84:10, 89:14, 92:16, 92:17, 92:18, 92:22, 112:19 326-8186 [1] - 2:23 34 [1] - 53:10 35 [6] - 6:15, 8:1, 9:4, 53:15, 54:6, 70:18 36 [9] - 7:20, 9:4, 10:4, 10:19, 39:5, 39:6, 46:19, 54:20 37 [7] - 7:20, 10:4, 10:11, 15:12, 54:25, 55:3, 107:23 38 [2] - 55:11, 112:24 39 [2] - 55:24, 56:3 3:00 [1] - 77:20 3:18-cv-00326-HZ [1] - 1:4
/		
/s [1] - 147:11		
0		
02109 [1] - 2:14		
1		
1 [140] - 4:23, 5:7, 5:12, 5:15, 5:18, 9:4, 9:6, 9:8, 10:3, 10:16, 10:20, 10:24, 11:10, 11:20, 12:1, 12:5, 13:3, 16:2, 16:25, 18:15, 18:16, 18:21, 18:24, 19:3, 19:15, 20:2, 20:7, 22:24, 25:12, 25:21, 26:13, 27:9, 27:24, 28:4, 28:24, 29:3, 29:7, 29:9, 29:17, 29:24, 30:7, 30:11, 30:13, 30:14, 30:19, 30:21, 31:2, 31:5, 31:7, 31:21, 32:1, 33:1, 35:4, 35:12, 35:15, 35:17, 35:19, 37:2, 38:23, 39:5, 40:18, 41:24, 45:8, 46:19, 50:21, 52:5, 52:9, 53:1, 54:7, 55:3, 58:23, 58:24, 59:12, 59:16, 59:17, 59:21, 59:25, 60:5, 60:14, 60:16, 60:23, 61:5, 62:7, 63:16, 65:14, 65:21, 65:23, 66:13, 67:23, 69:17, 69:24, 70:3, 72:16, 73:1, 74:5, 76:18, 79:4, 82:16, 83:17, 85:4, 87:6, 92:22, 94:6, 96:12, 96:25, 99:5, 103:13, 104:4, 104:5, 104:7, 104:24, 111:3, 111:8, 111:12, 111:18, 111:24, 112:7, 112:10, 116:25, 118:13, 126:24, 131:24, 134:2, 134:6, 138:4, 142:15, 143:15 1.83 [1] - 10:11 10 [6] - 17:14, 36:3, 43:25, 79:13, 124:14, 133:16 10,000 [2] - 63:20, 99:1 100 [1] - 83:24 1000 [1] - 2:22 101 [1] - 90:23 105 [1] - 98:15 11 [3] - 30:4, 44:13, 78:12 112 [13] - 6:15, 6:24, 7:22, 7:24, 8:1, 8:12, 8:17, 11:22, 12:1, 12:6, 12:20 112(f) [4] - 6:17, 9:10, 9:25, 24:7 113 [2] - 10:1, 10:6 115-5 [2] - 65:6, 98:11 12 [4] - 31:12, 45:8, 79:20, 92:25 121 [1] - 2:3 1211 [1] - 2:10 13 [10] - 75:1, 80:23, 93:15, 97:19,	2 [17] - 10:3, 10:24, 16:3, 16:25, 20:1, 33:13, 36:25, 41:25, 55:3, 72:2, 73:2, 99:14, 103:14, 107:1, 107:5, 108:6, 121:6 20 [3] - 1:5, 107:20, 108:6 20006 [1] - 2:17 2017 [1] - 110:13 2018 [2] - 109:20, 129:17 2019 [1] - 1:5 21 [2] - 75:20, 107:1 22 [2] - 47:13, 108:6 2200 [1] - 2:7 23 [3] - 50:16, 50:25, 122:12 24 [3] - 48:20, 107:25, 121:25 25 [6] - 43:8, 50:16, 50:25, 75:20, 112:24, 123:16 26 [27] - 30:17, 30:20, 31:3, 31:9, 31:10, 31:11, 31:20, 31:22, 49:12, 52:2, 52:3, 52:4, 52:8, 52:12, 52:18, 53:1, 53:2, 57:24, 58:4, 58:8, 58:11, 65:24, 69:10, 69:11, 69:13, 69:18, 69:24 27 [2] - 43:8, 123:16 28 [1] - 119:3 29 [15] - 31:16, 52:3, 58:3, 58:6, 58:11, 65:24, 66:13, 69:10, 69:19, 69:20, 69:22, 69:24, 98:13, 107:9	4 4 [17] - 34:6, 38:7, 49:12, 49:15, 59:10, 59:19, 72:22, 73:1, 73:2, 73:8, 103:14, 107:9, 114:11, 121:19, 126:15, 128:2, 132:23 40 [4] - 36:3, 56:10, 107:5, 138:17 41 [1] - 46:19 43 [2] - 35:14, 71:23 44 [1] - 40:15 45 [2] - 40:15, 138:12 46 [1] - 40:15 47 [2] - 112:2, 112:4 49 [2] - 112:2, 112:4
	2	5 5 [25] - 24:10, 29:6, 29:10, 38:19, 48:21, 49:12, 49:15, 73:22, 87:17, 87:23, 97:21, 106:17, 107:16, 108:5, 108:6, 112:24, 114:5, 118:22, 119:5, 122:2, 130:1, 135:2, 135:3, 144:18 50 [1] - 123:20 503 [1] - 2:23 51 [1] - 139:17 52 [8] - 105:7, 105:11, 105:13, 105:14, 105:17, 105:24, 106:1, 123:20 53 [3] - 40:18, 74:11, 75:9 54 [3] - 74:11, 106:7, 108:5 55 [2] - 40:18, 99:11 56 [1] - 112:24 58 [1] - 75:9
	3 3 [14] - 20:3, 22:18, 23:12, 33:23, 37:15, 72:14, 106:6, 106:7, 108:5, 116:3, 116:4, 116:15, 121:11, 133:2 30 [1] - 130:1 3000 [1] - 2:10	6 6 [18] - 29:15, 29:23, 36:12, 41:17, 41:23, 41:24, 44:3, 74:22, 97:6, 99:21, 105:18, 106:2, 107:20, 107:23, 108:6, 112:19, 122:19, 133:7 60 [1] - 2:13 61 [1] - 48:21 63 [3] - 23:12, 48:21, 126:15 64 [3] - 43:12, 112:3, 128:2

<p>66 [5] - 41:24, 43:12, 55:3, 73:1, 103:13 67 [4] - 7:12, 10:21, 11:4, 15:12</p>	<p>achieve [5] - 13:19, 23:16, 23:20, 125:13, 125:16 achieving [1] - 20:17 acknowledge [1] - 19:13 acknowledges [2] - 21:23, 144:20 acoustic [3] - 102:19, 102:21, 109:10 acoustical [1] - 102:21 act [1] - 84:5 active [4] - 55:19, 115:2, 115:4, 124:18 actual [4] - 17:1, 20:15, 22:13, 89:4 add [14] - 9:4, 52:10, 52:20, 69:13, 69:22, 92:19, 93:16, 93:19, 96:7, 97:3, 97:23, 115:21, 125:1, 133:5 added [6] - 9:9, 69:10, 98:5, 98:6, 127:17, 133:3 adding [5] - 29:13, 31:11, 54:5, 97:22, 127:19 addition [1] - 111:11 additional [9] - 9:5, 29:9, 29:13, 30:6, 30:15, 97:18, 106:23, 111:11, 111:15 address [21] - 10:5, 18:17, 34:21, 34:22, 34:23, 41:20, 42:11, 47:8, 48:8, 52:10, 62:10, 65:1, 76:16, 78:10, 81:8, 90:9, 92:15, 97:11, 129:15, 142:9 addressed [6] - 82:6, 122:24, 123:1, 126:10, 126:21, 126:22 addresses [6] - 7:23, 8:24, 41:19, 64:5, 73:18, 114:24 addressing [4] - 55:9, 66:22, 126:9, 136:13 adds [4] - 52:23, 58:1, 69:11, 127:15 adjust [89] - 19:8, 20:9, 20:21, 20:22, 23:20, 25:18, 26:10, 26:22, 37:5, 37:18, 41:5, 41:13, 43:13, 43:20, 43:21, 44:4, 45:3, 45:5, 45:19, 45:21, 46:14, 47:2, 48:7, 48:11, 48:12, 48:15, 49:1, 49:3, 49:10, 49:18, 49:20, 49:24, 49:25, 50:2, 50:7, 50:17, 51:6, 52:13, 52:25, 53:11, 54:22, 56:20, 66:14, 66:18, 67:18, 72:4, 72:6, 72:24, 74:24, 75:25, 76:4, 76:10, 76:13, 76:20, 76:22, 77:8, 78:3, 78:4, 78:14, 82:4, 83:16, 84:23, 85:4, 85:5, 86:3, 86:24, 87:6, 87:8, 89:22, 90:13, 92:1, 94:24, 96:8, 101:17, 104:9, 105:4, 105:9, 105:25, 114:8, 121:4, 121:8, 121:13, 121:17, 122:21, 125:25, 130:25, 133:12, 135:17 adjustable [38] - 22:22, 26:9, 30:22, 31:13, 31:17, 31:22, 32:2, 43:12, 44:23, 44:25, 45:11, 52:23, 58:13, 74:9, 75:4, 75:7, 75:10, 75:12, 75:15, 79:11, 80:1, 82:17, 82:18, 85:25, 86:10, 86:15, 88:10, 88:16, 89:25, 91:5, 91:19, 92:1, 92:7, 92:13, 94:4, 95:6, 100:9 adjusted [24] - 22:25, 23:13, 25:20, 31:23, 48:24, 49:5, 98:16, 100:9, 107:18, 118:15, 124:12, 124:25, 125:4, 125:8, 125:20, 125:21, 131:2,</p>	<p>131:3, 131:13, 131:14, 131:21, 133:9, 133:10, 137:3 Adjusting [1] - 49:16 adjusting [23] - 27:19, 28:13, 31:17, 41:7, 43:16, 49:17, 52:6, 52:15, 58:12, 66:4, 75:12, 75:22, 78:2, 78:25, 84:10, 84:17, 86:6, 86:13, 92:20, 100:9, 125:12, 127:4, 136:25 adjustment [31] - 19:9, 19:15, 23:1, 25:13, 26:11, 27:18, 27:20, 27:21, 28:13, 28:17, 31:5, 38:9, 53:19, 53:22, 54:3, 58:6, 58:10, 66:2, 66:20, 66:23, 67:21, 67:22, 77:19, 83:18, 86:2, 88:7, 88:19, 88:20, 88:25, 94:14, 115:10 adjustments [41] - 19:21, 19:22, 20:6, 22:6, 23:9, 23:19, 28:21, 29:20, 37:9, 37:19, 37:22, 43:9, 47:23, 47:24, 47:25, 49:6, 49:21, 51:4, 62:24, 63:7, 74:16, 75:16, 78:15, 79:17, 82:9, 84:11, 87:24, 92:4, 92:9, 93:3, 93:10, 94:7, 100:13, 100:15, 111:22, 123:18, 123:23, 125:18, 136:7, 136:13, 144:1 adjusts [12] - 29:12, 38:16, 38:20, 69:23, 70:14, 80:24, 86:2, 87:4, 87:7, 89:24, 93:17, 111:19 admitted [1] - 46:6 adopt [4] - 57:1, 69:23, 92:23, 132:16 advance [1] - 142:10 advanced [3] - 142:12, 145:16, 145:18 adverse [1] - 46:5 advisement [1] - 146:1 affect [1] - 66:7 affecting [3] - 25:1, 63:17, 132:1 affects [3] - 20:15, 63:25, 66:9 afternoon [2] - 126:7, 139:3 afterwards [1] - 12:24 ago [1] - 17:14 agree [13] - 28:14, 37:13, 46:24, 47:22, 57:16, 68:18, 84:22, 84:23, 89:7, 91:24, 101:11, 107:17, 143:19 agreed [3] - 71:14, 71:17, 113:25 agreement [2] - 57:14, 58:8 agrees [1] - 109:15 ahead [4] - 51:2, 71:2, 115:1, 145:15 AHMAD [1] - 1:3 Ahmad [1] - 17:21 al [1] - 3:4 Ali [1] - 45:18 alleged [2] - 43:3, 55:4 allegedly [2] - 46:1, 143:6 allow [1] - 7:6 allows [2] - 6:17, 7:7 alluded [1] - 48:6 almost [4] - 14:15, 137:16, 144:6 alone [4] - 52:10, 105:15, 112:21, 113:1 ALSO [1] - 2:18 alternatives [1] - 16:22 amount [2] - 71:24, 93:11 amplified [1] - 83:12 amplifier [91] - 22:23, 22:24, 25:13,</p>
<p>7</p> <p>7 [22] - 16:14, 29:15, 41:25, 42:14, 50:16, 50:25, 55:3, 75:1, 75:20, 97:6, 97:18, 97:19, 97:23, 100:1, 100:14, 105:17, 106:2, 112:19, 112:24, 115:17, 123:1 7-15-19 [1] - 147:11 716 [1] - 110:13 77057 [1] - 2:8 788 [1] - 12:22 792 [1] - 109:21</p>		
<p>8</p> <p>8 [14] - 16:14, 43:2, 43:7, 43:12, 60:4, 74:11, 75:9, 100:1, 100:8, 107:25, 123:14, 140:10</p>		
<p>9</p> <p>9 [25] - 28:25, 29:2, 43:8, 49:12, 49:15, 60:20, 96:24, 100:25, 103:8, 106:7, 110:25, 111:2, 111:5, 111:11, 111:17, 111:20, 111:24, 113:22, 117:16, 118:10, 119:16, 123:16, 123:25 90 [1] - 118:18 90-0091 [1] - 147:13 908 [1] - 109:21 915 [1] - 12:22 965 [1] - 110:14 97204 [2] - 2:4, 2:23 97204-3730 [1] - 2:11 99 [1] - 90:24</p>		
<p>A</p> <p>able [4] - 50:25, 109:7, 109:12, 109:13 above-titled [1] - 147:5 absolutely [3] - 3:22, 81:22, 129:6 abstract [2] - 73:17, 130:16 acceptable [1] - 22:8 accepted [1] - 7:9 accomplish [1] - 83:3 accomplished [1] - 30:25 accomplishes [1] - 43:4 accordance [1] - 32:8 according [4] - 29:8, 29:12, 29:20, 58:1 accordingly [1] - 67:24 account [2] - 86:24, 88:5 accuracy [3] - 40:11, 40:12, 114:9 accurate [11] - 39:13, 63:4, 74:13, 74:19, 74:20, 87:25, 88:12, 89:1, 92:4, 115:9, 124:22 accurately [2] - 40:20, 73:5 accuse [1] - 139:22 accused [2] - 102:4, 139:17</p>		

25:18, 26:10, 26:11, 30:6, 30:23, 31:1, 31:13, 31:14, 31:17, 31:23, 32:2, 43:9, 43:12, 43:18, 43:20, 44:14, 44:23, 44:25, 45:3, 45:12, 49:16, 49:21, 49:25, 50:18, 52:23, 58:10, 58:13, 66:5, 66:13, 66:20, 74:8, 74:9, 74:15, 74:16, 74:24, 75:4, 75:8, 75:10, 75:12, 75:16, 75:25, 76:5, 76:20, 76:21, 77:4, 77:10, 77:24, 78:2, 78:4, 79:11, 80:1, 82:17, 82:19, 82:23, 83:1, 83:6, 83:7, 83:8, 83:13, 85:5, 86:1, 86:3, 86:6, 86:9, 86:18, 86:21, 87:22, 88:10, 88:16, 88:20, 88:23, 90:1, 90:16, 91:5, 91:20, 92:1, 92:2, 92:7, 92:13, 94:4, 95:7, 98:5, 100:9, 123:18

amplifiers [2] - 75:22, 123:19

amplify [2] - 83:4, 85:6

analog [1] - 30:5

analogy [2] - 89:2, 114:16

analysis [6] - 6:25, 14:10, 33:25, 36:18, 57:23, 58:14

angle [2] - 19:24, 20:5

answer [5] - 45:22, 87:9, 104:1, 108:15, 124:8

antecedent [1] - 39:18

anticipated [1] - 100:6

anyway [3] - 11:5, 85:20, 97:12

apart [1] - 105:21

apologize [4] - 44:20, 85:18, 95:23, 131:8

apparent [1] - 60:24

appeal [1] - 14:8

Appeals [1] - 138:10

appear [2] - 4:22, 4:25

APPEARANCES [1] - 2:1

appearances [1] - 3:6

appeared [1] - 110:25

applicant [2] - 9:20, 10:6

applicants [2] - 7:13, 85:3

application [26] - 7:14, 10:12, 10:13, 10:21, 13:24, 16:11, 16:23, 29:23, 64:10, 97:9, 97:14, 97:15, 97:16, 97:22, 98:15, 98:16, 98:18, 99:24, 111:16, 113:4, 113:5, 114:3, 114:6, 114:25, 124:18, 143:25

application-specific [2] - 97:9, 99:24

applications [1] - 11:6

applies [1] - 7:4

apply [8] - 5:22, 51:23, 53:4, 69:25, 83:21, 85:6, 86:21, 111:2

appreciate [1] - 96:23

approach [5] - 3:21, 5:5, 5:17, 35:2, 85:11

approaches [2] - 32:23, 32:24

appropriate [1] - 34:17

arbitrary [3] - 94:12, 95:4, 95:12

area [1] - 21:19

argue [15] - 4:15, 4:21, 15:4, 20:23, 52:3, 71:12, 71:15, 71:18, 76:17, 76:19, 81:13, 121:23, 122:7, 123:12,

124:11

argued [11] - 34:19, 35:11, 42:25, 48:5, 50:12, 55:15, 70:1, 87:18, 89:14, 118:20

arguing [16] - 3:20, 4:13, 5:6, 5:10, 5:11, 7:1, 8:9, 11:15, 34:23, 54:11, 91:9, 95:19, 123:11, 126:1, 127:8

argument [32] - 12:1, 13:8, 32:19, 39:24, 47:11, 47:13, 51:10, 51:11, 52:2, 53:7, 69:9, 69:20, 78:18, 82:13, 89:15, 91:22, 92:15, 92:24, 93:1, 94:13, 100:18, 111:1, 112:3, 112:4, 123:9, 124:10, 124:16, 125:1, 134:21, 141:2, 142:12, 145:16

arguments [9] - 11:15, 32:20, 47:6, 47:8, 57:7, 76:15, 110:22, 122:5, 134:14

Arista [1] - 109:19

arrow [1] - 91:4

art [18] - 5:23, 16:13, 21:20, 21:23, 23:23, 25:24, 26:4, 33:19, 38:1, 60:24, 61:6, 62:12, 72:12, 73:2, 73:14, 103:15, 103:20, 103:24

ASHRAFZADEH [1] - 1:3

Ashrafzadeh [1] - 17:21

aside [1] - 126:25

asserted [3] - 4:24, 13:2, 14:10

asserting [2] - 26:5, 31:10

assertion [1] - 55:16

assisting [1] - 17:22

associated [1] - 108:1

attempt [1] - 102:7

attention [3] - 109:19, 118:22, 138:14

attorney [5] - 2:19, 2:20, 2:20, 4:16, 6:4

attorney's [1] - 6:1

attorneys [4] - 4:15, 5:25, 6:1, 35:6

automatic [2] - 110:15, 110:16

automatically [11] - 20:10, 20:12, 37:6, 39:9, 44:17, 44:21, 46:16, 46:20, 47:3, 55:20, 65:15

available [1] - 61:15

Ave [1] - 2:16

Avenue [2] - 2:10, 2:22

B

Background [7] - 21:18, 21:19, 22:2, 39:4, 63:10, 130:17, 131:24

background [4] - 18:17, 59:8, 62:18, 64:14

bad [4] - 86:8, 86:11, 86:25, 94:9

balance [2] - 100:10, 114:21

balanced [1] - 75:14

balancing [1] - 114:23

Barger [2] - 2:6, 3:12

based [43] - 14:12, 19:11, 20:11, 21:7, 37:7, 39:9, 39:23, 40:25, 42:7, 44:5, 44:9, 44:17, 44:22, 46:16, 46:20, 46:25, 47:4, 51:10, 52:2, 52:3, 55:15, 55:21, 65:16, 77:18, 77:19, 97:2,

98:16, 98:21, 99:4, 99:17, 99:22, 100:16, 101:20, 107:6, 107:23, 122:15, 127:4, 131:2, 131:13, 131:21, 132:16, 135:18, 139:18

basement [1] - 144:3

basic [1] - 140:3

basis [2] - 39:18, 92:23

batch [2] - 63:20, 99:12

baton [1] - 114:17

bear [1] - 30:10

bearing [1] - 36:5

bears [1] - 29:18

became [2] - 103:16, 103:17

become [1] - 121:10

becomes [4] - 63:3, 63:5, 115:9, 129:21

BEFORE [1] - 1:17

begging [1] - 60:22

beginning [5] - 39:6, 53:16, 55:1, 63:8, 123:9

begins [2] - 33:4, 39:15

behalf [3] - 3:15, 3:16, 32:16

below [2] - 73:16, 147:3

best [16] - 6:6, 8:7, 8:15, 9:20, 9:21, 13:21, 14:1, 15:13, 16:5, 18:9, 34:1, 34:4, 59:14, 65:25, 115:23

better [1] - 25:24

between [7] - 11:13, 18:25, 20:4, 57:18, 80:19, 96:1, 132:9

beyond [2] - 102:8, 112:7

big [2] - 23:7, 24:25

bigger [5] - 94:10, 94:14, 94:15, 94:21

bit [6] - 51:25, 61:9, 77:14, 82:21, 88:2, 136:15

block [3] - 18:21, 19:1, 80:9

blocks [1] - 18:24

blue [1] - 45:10

board [1] - 41:15

bodied [1] - 65:25

boil [1] - 11:15

bold [2] - 59:24, 60:6

Boston [1] - 2:14

bottom [7] - 75:19, 85:24, 87:22, 108:17, 130:9, 141:12, 144:18

box [16] - 73:7, 73:16, 75:9, 94:3, 94:10, 94:12, 94:14, 94:15, 94:16, 94:21, 95:4, 95:5, 95:8, 95:10, 95:12, 100:24

brain [1] - 4:10

breadth [4] - 11:19, 85:3, 94:8, 94:24

breadths [1] - 7:8

break [2] - 68:23, 71:3

breath [1] - 131:8

bridge [1] - 94:15

brief [28] - 7:12, 15:3, 15:7, 15:9, 16:8, 18:12, 44:1, 44:3, 44:13, 46:23, 47:8, 47:10, 48:5, 49:14, 50:11, 50:13, 54:24, 59:2, 68:3, 68:15, 79:12, 79:13, 82:18, 112:12, 123:1, 124:10, 126:14, 140:1

briefed [1] - 5:4

briefing ^[5] - 5:4, 12:12, 30:24, 65:8, 126:21
briefly ^[7] - 84:16, 110:21, 118:8, 133:17, 140:10, 142:9, 143:13
briefs ^[8] - 20:12, 43:24, 48:8, 59:3, 70:6, 103:18, 122:8, 134:25
bring ^[1] - 61:6
broad ^[20] - 5:7, 11:17, 14:22, 15:23, 19:9, 23:14, 24:15, 25:21, 25:22, 26:7, 26:8, 30:1, 35:3, 35:4, 38:4, 85:1, 91:12, 96:11
broadcast ^[2] - 109:25, 110:3
broadcasting ^[4] - 109:23, 110:3, 110:7, 110:8
broader ^[9] - 5:18, 14:17, 22:4, 94:6, 99:25, 128:7, 129:8, 129:9, 132:14
broadest ^[2] - 11:10, 127:16
broadly ^[15] - 6:5, 11:16, 20:24, 23:21, 25:23, 32:8, 61:5, 61:6, 84:22, 96:14, 97:11, 127:25, 129:14, 129:21, 131:15
buffer ^[1] - 30:6
built ^[1] - 69:1
button ^[1] - 96:22
buy ^[1] - 69:3

C

calculates ^[1] - 77:18
calibrate ^[13] - 104:10, 104:12, 104:16, 107:3, 107:21, 117:6, 135:12, 135:17, 141:16, 143:18, 143:22, 145:12
calibrated ^[4] - 114:7, 120:8, 120:23, 125:6
calibrates ^[2] - 106:19, 119:7
calibrating ^[6] - 24:11, 116:5, 116:7, 124:5, 124:6, 136:25
calibration ^[243] - 18:25, 19:8, 20:9, 20:19, 23:7, 23:17, 23:18, 23:19, 24:13, 25:4, 25:17, 26:22, 27:10, 28:12, 29:11, 29:18, 31:16, 37:5, 42:15, 43:5, 43:8, 45:10, 47:2, 50:17, 50:19, 51:6, 56:4, 56:19, 58:11, 64:11, 68:9, 71:16, 72:3, 73:19, 74:23, 75:20, 76:10, 78:13, 82:3, 85:23, 89:21, 90:13, 91:3, 95:17, 96:3, 96:6, 96:9, 96:13, 96:14, 97:5, 97:10, 97:12, 98:1, 98:4, 98:14, 98:20, 99:4, 99:10, 99:13, 99:25, 100:25, 101:3, 101:5, 101:8, 101:13, 101:14, 101:18, 101:23, 101:24, 102:5, 102:8, 102:10, 102:14, 102:15, 102:16, 102:20, 102:24, 103:2, 103:9, 104:2, 104:6, 104:7, 104:12, 104:13, 104:14, 104:18, 104:19, 104:23, 105:2, 105:16, 105:19, 105:21, 106:16, 106:21, 106:23, 106:25, 107:2, 107:3, 107:4, 107:7, 107:10, 107:14, 107:19, 107:20, 107:21, 107:24, 107:25, 108:7, 108:9, 108:19, 109:1, 109:2, 109:9, 109:10, 111:6, 111:8, 111:12,

111:18, 111:21, 111:24, 112:5, 112:13, 112:17, 112:20, 112:21, 112:25, 113:1, 113:6, 113:8, 113:19, 113:24, 113:25, 114:4, 114:8, 114:10, 114:12, 114:14, 115:1, 115:2, 115:6, 115:14, 115:15, 115:25, 116:7, 116:8, 117:4, 117:6, 117:15, 117:18, 117:21, 117:23, 118:3, 118:11, 118:13, 118:16, 118:17, 118:19, 118:21, 119:7, 119:9, 119:13, 119:18, 120:2, 120:13, 120:22, 121:4, 121:8, 121:12, 123:17, 125:8, 134:7, 134:8, 134:10, 134:16, 134:17, 134:18, 135:4, 135:12, 135:13, 135:15, 135:17, 135:20, 136:6, 136:14, 136:15, 136:16, 136:17, 136:21, 136:22, 136:25, 137:4, 139:18, 139:22, 139:24, 140:7, 140:12, 140:13, 140:16, 140:18, 140:19, 140:21, 140:23, 140:25, 141:1, 141:4, 141:5, 141:9, 141:10, 141:13, 141:14, 141:16, 141:17, 141:23, 141:24, 142:1, 142:7, 142:22, 142:24, 143:2, 143:6, 143:8, 143:9, 143:11, 143:17, 143:19, 143:21, 143:23, 144:4, 144:10, 144:11, 144:13, 144:23, 145:8, 145:9, 145:12, 145:17, 145:20

Calibration ^[1] - 108:12

camera ^[1] - 133:25

careful ^[1] - 15:10

carrying ^[3] - 8:8, 8:11, 8:13

Case ^[1] - 3:5

case ^[51] - 5:21, 11:8, 12:12, 12:13, 12:15, 12:21, 12:23, 13:15, 17:4, 17:8, 17:17, 17:24, 32:11, 33:3, 33:15, 34:8, 35:24, 36:1, 36:2, 36:4, 36:5, 36:10, 55:14, 56:25, 57:15, 64:22, 70:5, 70:17, 80:21, 83:10, 94:18, 95:21, 109:20, 109:21, 110:13, 122:25, 126:12, 128:10, 129:16, 129:17, 129:18, 129:19, 129:22, 139:14, 139:15, 145:25

cases ^[3] - 32:11, 34:13, 129:16

Category ^[1] - 13:3

caught ^[1] - 47:5

caused ^[1] - 62:16

causes ^[1] - 132:8

causing ^[1] - 42:5

Celsius ^[2] - 105:8, 105:12

certain ^[16] - 6:2, 11:22, 13:11, 28:10, 34:17, 40:23, 47:10, 48:6, 49:9, 64:2, 64:4, 64:23, 67:11, 69:13, 77:18, 138:22

certified ^[1] - 147:8

certify ^[1] - 147:3

CFR ^[1] - 10:11

chaff ^[1] - 6:2

challenged ^[1] - 113:16

chance ^[1] - 25:25

change ^[20] - 19:23, 20:5, 24:19, 36:19,

36:21, 42:2, 49:22, 65:19, 67:12, 67:13, 67:14, 68:2, 71:15, 104:15, 109:25, 121:15, 122:15, 127:20, 133:3, 133:5

changed ^[5] - 56:12, 56:13, 61:11, 69:6, 103:16

changes ^[10] - 62:17, 65:2, 73:6, 73:15, 103:20, 104:16, 105:4, 109:23, 110:1, 130:13

changing ^[10] - 24:15, 24:16, 67:7, 67:17, 99:7, 115:8, 122:10, 122:11, 132:5, 136:17

chart ^[1] - 96:5

child's ^[1] - 90:22

chip ^[10] - 24:21, 31:8, 61:12, 61:17, 61:21, 62:3, 64:20, 136:12, 136:18

chips ^[7] - 23:4, 61:17, 61:18, 62:21, 62:22

choose ^[1] - 94:23

chose ^[3] - 7:19, 85:3, 108:18

circuit ^[165] - 10:25, 18:23, 18:25, 19:1, 19:8, 20:9, 22:25, 23:11, 23:18, 24:12, 25:17, 26:11, 26:12, 26:22, 27:10, 27:14, 28:12, 29:7, 29:11, 30:12, 30:13, 30:21, 30:23, 30:25, 31:15, 31:17, 31:24, 32:5, 37:5, 42:3, 42:15, 42:16, 43:5, 43:9, 43:14, 43:19, 44:14, 44:24, 45:1, 45:10, 45:12, 47:2, 50:17, 50:19, 51:7, 56:5, 58:11, 58:12, 63:17, 64:2, 64:12, 65:14, 71:16, 72:4, 73:10, 73:20, 74:4, 74:5, 74:6, 74:10, 74:12, 74:14, 74:23, 75:2, 75:6, 75:11, 75:13, 75:17, 75:18, 76:1, 76:5, 76:10, 76:12, 77:5, 77:11, 77:24, 78:13, 79:4, 79:5, 79:11, 79:25, 82:3, 82:10, 83:11, 83:12, 83:18, 83:19, 83:23, 84:2, 84:4, 84:6, 84:12, 85:21, 85:22, 85:23, 85:25, 86:3, 86:4, 86:5, 86:19, 87:21, 87:24, 88:15, 89:22, 89:24, 90:2, 90:5, 90:10, 90:13, 90:16, 90:18, 91:4, 91:7, 91:12, 91:14, 91:19, 92:3, 92:7, 92:12, 93:7, 94:3, 94:7, 94:19, 95:6, 96:24, 97:24, 98:1, 98:4, 101:20, 105:12, 107:2, 107:21, 114:7, 115:6, 116:8, 117:5, 121:4, 121:8, 121:13, 123:17, 125:5, 132:1, 134:7, 134:16, 135:15, 136:6, 136:21, 139:23, 140:12, 140:14, 140:22, 140:25, 141:4, 141:9, 141:14, 142:2, 142:23, 143:10, 143:17, 143:22, 143:23, 144:10, 144:24, 145:8

Circuit ^[28] - 12:13, 14:4, 15:17, 17:4, 17:8, 17:24, 32:10, 33:2, 33:3, 33:13, 34:6, 34:12, 36:20, 46:7, 47:20, 70:5, 70:19, 109:15, 109:16, 109:20, 109:21, 110:2, 110:5, 110:13, 110:14, 113:9, 122:24, 129:17

circuitry ^[89] - 9:5, 10:17, 18:22, 19:2, 19:9, 19:10, 20:15, 22:11, 24:20, 26:23, 30:16, 30:19, 31:2, 31:6, 31:8,

31:12, 49:7, 52:4, 52:21, 53:12, 54:22, 55:16, 58:1, 58:5, 63:1, 63:23, 63:25, 65:24, 69:11, 69:13, 69:18, 72:4, 72:6, 72:8, 72:18, 72:21, 72:24, 73:4, 73:14, 76:5, 76:6, 76:10, 76:14, 76:23, 77:8, 78:4, 78:15, 78:16, 78:17, 79:17, 80:25, 82:11, 83:16, 84:10, 84:13, 84:14, 85:4, 85:14, 86:7, 87:4, 87:5, 87:7, 88:21, 89:5, 89:22, 89:24, 90:11, 90:13, 90:17, 92:9, 92:20, 93:3, 93:8, 93:17, 94:5, 95:11, 124:6

circuits [22] - 28:10, 41:25, 65:20, 73:25, 74:2, 74:18, 75:21, 77:11, 77:12, 79:9, 79:10, 79:21, 80:4, 88:17, 89:10, 91:1, 92:11, 95:6, 95:8, 125:15

Circuits [8] - 12:21, 35:24, 36:4, 36:10, 36:13, 36:16, 36:19, 126:12

citations [2] - 112:23, 112:25

cite [4] - 44:8, 57:25, 64:22, 124:15

cited [6] - 25:25, 58:19, 70:6, 103:18, 122:25, 126:12

cites [2] - 17:8, 138:21

citing [3] - 58:18, 58:19, 59:4

Claim [153] - 4:23, 5:7, 5:15, 5:18, 9:4, 9:8, 11:20, 12:1, 18:15, 18:16, 19:3, 19:15, 20:7, 22:24, 25:21, 27:9, 27:24, 28:4, 28:24, 29:3, 29:6, 29:7, 29:9, 29:10, 29:15, 29:17, 29:23, 29:24, 30:4, 30:7, 30:11, 30:12, 30:13, 30:14, 30:15, 30:17, 30:19, 30:20, 30:21, 31:2, 31:3, 31:5, 31:7, 31:9, 31:10, 31:11, 31:16, 31:20, 31:21, 31:22, 35:4, 35:12, 35:15, 35:19, 37:2, 50:21, 52:2, 52:3, 52:4, 52:5, 52:8, 52:9, 52:12, 52:18, 53:1, 53:2, 54:7, 57:24, 58:3, 58:4, 58:6, 58:8, 58:10, 58:11, 58:24, 61:5, 62:7, 65:14, 65:21, 65:24, 66:13, 67:23, 69:10, 69:11, 69:13, 69:18, 69:19, 69:20, 69:22, 69:24, 70:3, 72:16, 84:10, 89:14, 92:16, 92:17, 92:18, 92:22, 94:6, 96:12, 96:24, 96:25, 100:25, 103:8, 104:4, 104:5, 104:7, 104:24, 110:25, 111:2, 111:3, 111:5, 111:8, 111:11, 111:12, 111:17, 111:18, 111:20, 111:24, 112:7, 112:10, 113:22, 116:25, 117:16, 118:10, 118:13, 119:16, 126:24, 134:2, 134:6, 137:25, 138:4, 142:14, 142:15, 142:24, 143:15

CLAIM [1] - 1:15

claim [176] - 3:3, 5:2, 5:5, 5:11, 5:20, 5:21, 5:22, 5:23, 6:18, 6:22, 6:24, 7:1, 7:2, 7:12, 7:21, 7:23, 8:20, 8:21, 8:22, 8:25, 9:1, 9:3, 9:11, 9:13, 9:17, 9:18, 9:20, 9:24, 9:25, 11:11, 11:21, 12:3, 13:2, 13:13, 14:5, 14:8, 14:15, 15:22, 19:4, 21:1, 21:3, 21:7, 23:25, 25:22, 26:7, 28:25, 29:6, 29:17, 30:2, 31:9, 31:20, 32:10, 32:22, 32:23, 33:4, 33:16, 33:24, 34:15, 36:7, 36:17,

36:22, 38:10, 42:10, 51:7, 51:11, 51:14, 51:15, 51:16, 51:17, 51:19, 51:20, 51:21, 51:22, 51:24, 53:4, 53:21, 54:5, 54:7, 54:9, 54:10, 54:16, 56:17, 57:13, 57:16, 57:20, 57:21, 57:22, 58:7, 59:14, 62:2, 64:6, 64:20, 64:24, 65:7, 65:8, 68:12, 69:7, 69:9, 69:10, 69:21, 69:25, 70:7, 70:12, 70:15, 70:20, 70:24, 72:15, 72:16, 72:18, 81:5, 81:6, 82:16, 84:16, 89:15, 92:15, 92:17, 92:18, 92:24, 93:16, 93:19, 93:20, 95:20, 96:1, 96:6, 96:16, 104:4, 104:8, 104:13, 104:18, 105:1, 105:18, 110:24, 110:25, 111:1, 111:16, 112:3, 112:9, 117:2, 117:10, 118:11, 118:18, 119:22, 122:3, 122:4, 122:6, 122:20, 125:24, 126:3, 127:20, 127:21, 129:2, 133:7, 133:11, 135:9, 135:10, 138:3, 138:24, 139:7, 139:10, 139:11, 140:4, 140:9, 140:11, 142:13, 142:18, 142:21, 142:22, 143:20

claimed [7] - 25:23, 29:10, 53:22, 53:23, 53:24, 53:25, 84:22

claiming [1] - 6:5

Claims [2] - 97:6, 112:19

claims [135] - 4:25, 5:1, 5:14, 5:16, 5:23, 6:11, 6:12, 6:16, 6:21, 7:6, 7:7, 7:13, 7:15, 7:17, 7:20, 7:21, 7:23, 8:4, 8:18, 8:19, 8:24, 9:4, 9:9, 9:17, 10:4, 10:15, 10:19, 10:20, 10:21, 10:24, 11:1, 11:4, 11:13, 11:15, 12:16, 13:2, 13:7, 13:23, 14:6, 14:10, 14:12, 14:22, 15:12, 17:6, 18:11, 20:18, 20:21, 24:5, 24:6, 27:12, 28:23, 29:6, 29:25, 30:9, 33:5, 33:6, 33:7, 33:21, 34:3, 34:11, 34:16, 34:20, 35:7, 36:6, 36:15, 37:2, 37:3, 38:7, 38:8, 38:15, 46:10, 47:12, 47:19, 48:2, 56:24, 56:25, 58:25, 60:19, 60:21, 60:22, 62:4, 62:20, 64:6, 64:23, 67:25, 69:16, 70:2, 70:13, 72:15, 72:16, 72:17, 81:2, 96:20, 103:4, 103:5, 104:21, 105:8, 106:3, 108:8, 108:9, 108:22, 109:1, 109:12, 110:4, 110:15, 110:16, 112:2, 112:4, 112:6, 112:8, 112:20, 113:9, 113:12, 119:18, 121:21, 122:13, 126:4, 133:3, 133:4, 133:6, 133:8, 136:13, 137:21, 140:6, 141:18, 142:19, 142:20, 143:7, 143:9, 145:19, 145:22

clarify [6] - 19:5, 49:14, 57:6, 65:8, 95:18, 130:2

clear [18] - 12:8, 15:11, 15:12, 15:20, 24:3, 45:5, 58:17, 70:6, 70:19, 82:14, 84:8, 87:11, 91:25, 103:6, 111:18, 121:10, 127:24, 129:24

clearly [5] - 13:17, 14:21, 15:21, 91:24, 129:23

CLERK [1] - 3:3

clock [2] - 52:22

close [6] - 46:3, 53:2, 92:14, 92:25,

125:22, 133:16

Close [3] - 2:5, 2:6, 3:12

clue [1] - 61:14

clues [1] - 140:8

co [3] - 17:15, 58:20, 59:4

co-inventors [3] - 17:15, 58:20, 59:4

coefficient [1] - 115:10

coefficients [2] - 42:2, 73:9

colleague [1] - 81:13

colleagues [1] - 95:21

collectively [7] - 74:18, 76:6, 78:5, 90:11, 90:15, 92:6, 94:4

column [75] - 22:17, 23:12, 24:10, 28:25, 29:2, 31:12, 38:23, 39:5, 40:14, 40:15, 40:18, 41:23, 41:24, 41:25, 43:8, 43:11, 46:19, 48:21, 49:12, 49:15, 50:16, 50:25, 55:3, 59:10, 59:19, 60:4, 60:20, 60:21, 63:15, 73:1, 73:2, 74:11, 75:1, 75:9, 75:19, 99:5, 99:14, 99:21, 100:8, 103:13, 103:14, 106:6, 106:7, 106:17, 107:1, 107:5, 107:9, 107:16, 107:20, 107:23, 107:25, 108:5, 108:6, 112:23, 112:24, 116:3, 116:4, 118:22, 119:5, 123:16, 123:20, 126:15, 128:2, 130:1, 131:24, 132:23, 135:2, 135:3, 144:18

columns [1] - 100:1

combinations [1] - 26:3

coming [4] - 27:13, 27:22, 46:1, 86:25

comments [1] - 65:1

common [1] - 130:18

commonly [1] - 72:11

communicates [1] - 134:17

companies [1] - 102:16

compare [1] - 82:23

comparison [1] - 56:13

compensate [8] - 22:25, 23:9, 23:10, 24:12, 25:1, 31:23, 32:4, 125:6

compensating [1] - 29:1

Compensation [1] - 21:9

compensation [2] - 32:3, 41:6

Complaint [6] - 55:14, 55:18, 56:14, 61:9, 139:17, 139:19

completely [4] - 56:12, 69:7, 91:13, 91:24

complex [1] - 22:15

complicated [1] - 67:16

component [5] - 83:13, 94:18, 94:20, 123:6, 123:7

components [8] - 83:14, 84:5, 84:7, 94:12, 94:16, 94:17, 94:23, 94:24

comprises [1] - 30:5

comprising [1] - 30:22

computer [2] - 110:15, 135:16

Computer [1] - 138:19

concede [8] - 42:19, 44:13, 45:4, 46:23, 79:12, 79:14, 82:18, 89:25

conceded [2] - 44:1, 115:22

concept [1] - 22:4

concerns [1] - 71:12

concessions [1] - 43:24
conclude [1] - 8:18
concluded [1] - 146:6
conclusion [1] - 113:7
concrete [1] - 60:1
conditions [4] - 99:8, 101:21, 132:6, 136:23
conferred [1] - 4:14
configurations [2] - 109:24, 109:25
confirm [2] - 34:11, 46:10
confirmed [2] - 45:16, 124:2
confirms [4] - 38:19, 48:1, 72:23, 103:19
conformed [1] - 147:7
confusion [1] - 45:14
Congress [1] - 9:17
conjunction [4] - 43:18, 44:14, 44:23, 45:12
conjunctions [3] - 126:16, 127:25, 132:24
conjunctive [1] - 123:3
conjunctively [1] - 128:14
conjunctives [1] - 129:20
connected [1] - 108:9
connecting [1] - 107:3
connection [9] - 75:25, 101:13, 101:21, 102:1, 102:5, 104:23, 108:20, 112:15, 113:13
connectives [1] - 128:13
connects [3] - 104:5, 106:25, 107:14
consider [1] - 34:7
consideration [1] - 60:25
considered [2] - 8:14, 61:1
consistent [11] - 45:7, 77:7, 77:9, 78:8, 95:9, 111:17, 113:9, 113:10, 123:15, 141:21
consistently [6] - 41:2, 41:15, 109:17, 110:5, 110:9, 115:25
constraints [1] - 71:10
CONSTRUCTION [1] - 1:15
construction [125] - 3:4, 5:6, 5:20, 5:21, 6:22, 7:12, 9:25, 11:21, 13:4, 14:5, 14:9, 19:4, 19:7, 20:8, 21:2, 21:3, 21:7, 26:16, 26:21, 27:11, 32:22, 32:23, 33:4, 33:11, 33:25, 36:18, 37:13, 46:13, 46:15, 47:1, 47:7, 47:15, 47:16, 47:17, 48:6, 51:23, 52:17, 52:24, 52:25, 53:8, 53:9, 53:17, 53:18, 54:2, 54:7, 54:10, 54:12, 54:19, 56:18, 57:2, 57:13, 57:16, 57:22, 62:3, 64:20, 65:7, 65:8, 69:24, 70:22, 70:24, 72:9, 72:13, 76:9, 76:16, 76:17, 76:22, 77:6, 77:7, 78:8, 78:11, 79:16, 80:5, 80:9, 80:17, 80:23, 81:5, 81:22, 82:14, 83:15, 84:8, 84:25, 87:18, 89:12, 89:21, 90:12, 91:7, 92:23, 93:2, 93:12, 93:16, 96:3, 101:14, 101:18, 104:17, 104:22, 105:2, 105:19, 106:5, 111:2, 111:18, 112:11, 112:12, 112:13, 112:18, 113:4, 113:20, 113:25,

117:10, 117:21, 119:22, 120:4, 120:18, 121:20, 122:4, 123:14, 124:11, 127:14, 132:17, 142:20, 142:21, 142:22, 145:21
constructions [8] - 5:7, 34:15, 84:25, 96:2, 113:18, 131:16, 134:9, 134:20
construe [17] - 11:16, 12:16, 31:5, 32:7, 52:14, 62:9, 78:12, 109:18, 110:2, 110:14, 117:12, 121:11, 127:25, 128:4, 129:1, 129:22, 132:17
construed [24] - 6:16, 8:25, 9:13, 11:13, 13:3, 17:7, 20:24, 30:11, 37:17, 37:19, 51:15, 61:5, 67:23, 110:11, 110:20, 113:8, 113:11, 128:13, 129:14, 131:15, 132:24, 135:11, 138:25
construing [5] - 5:16, 29:24, 36:22, 37:8, 104:23
contain [2] - 8:22, 129:19
contained [1] - 91:14
contemplated [1] - 8:7
contemplates [1] - 8:19
contend [3] - 6:23, 9:24
contended [1] - 6:25
contention [1] - 17:5
contentions [4] - 11:25, 26:1, 26:3, 102:3
context [10] - 34:22, 39:24, 58:18, 85:2, 101:9, 102:3, 111:1, 135:24, 136:1, 142:17
contexts [2] - 102:11, 102:12
Continental [8] - 12:21, 35:24, 36:4, 36:10, 36:13, 36:16, 36:19, 126:12
continue [1] - 86:8
continues [1] - 40:14
contrary [1] - 133:11
contrast [2] - 37:8, 121:15
control [66] - 18:25, 19:8, 20:9, 23:18, 25:17, 26:22, 27:10, 27:14, 27:23, 28:12, 29:11, 31:17, 37:5, 42:15, 43:5, 43:8, 45:10, 47:2, 50:17, 50:19, 51:7, 56:4, 58:12, 64:12, 71:16, 72:4, 74:23, 75:16, 75:21, 76:10, 78:13, 82:3, 85:23, 89:21, 90:13, 91:4, 107:2, 107:20, 116:8, 117:5, 121:4, 121:8, 121:13, 123:17, 134:7, 134:16, 135:15, 136:6, 136:21, 139:22, 140:12, 140:13, 140:22, 140:25, 141:4, 141:9, 141:14, 142:2, 142:23, 143:10, 143:17, 143:22, 143:23, 144:10, 144:24, 145:8
controller [7] - 30:17, 73:19, 123:21, 135:15, 142:1, 142:16, 144:23
controlling [2] - 28:2, 30:16
controls [6] - 43:9, 74:12, 75:11, 77:4, 87:23, 123:17
controversy [1] - 122:1
converter [1] - 30:5
converts [1] - 89:5
convincing [1] - 12:8
cook [1] - 145:2

cooking [2] - 136:24, 144:7
coordinated [1] - 46:3
copy [1] - 134:15
corner [1] - 95:22
Corporation [3] - 3:5, 12:22, 139:4
CORPORATION [1] - 1:6
correct [21] - 39:21, 55:2, 55:5, 62:6, 74:17, 75:16, 78:24, 84:11, 86:7, 86:11, 86:16, 86:18, 88:8, 94:9, 104:22, 120:16, 129:6, 137:13, 147:4
corrected [2] - 77:25, 85:7
correcting [2] - 42:23, 43:1
correction [2] - 86:13, 88:11
corrections [3] - 77:25, 80:2, 90:19
correctly [3] - 90:25, 117:2, 137:12
corrects [2] - 42:22, 77:21
corresponding [1] - 9:14
cost [3] - 11:4, 11:5, 64:15
COUNSEL [1] - 146:3
counsel [10] - 2:19, 3:6, 57:13, 81:21, 82:7, 94:2, 94:11, 94:23, 108:2, 143:16
Counsel [1] - 18:4
counsel's [1] - 82:14
counter [2] - 115:8, 140:8
counts [1] - 115:8
couple [5] - 68:15, 98:9, 100:24, 141:25, 142:10
course [3] - 24:18, 94:1, 132:2
COURT [86] - 1:1, 1:18, 2:21, 3:2, 3:17, 3:22, 3:24, 4:2, 4:10, 4:18, 18:4, 26:15, 26:18, 27:2, 27:5, 27:13, 27:22, 32:14, 32:17, 44:19, 57:4, 57:9, 65:17, 71:2, 71:8, 71:20, 78:21, 78:25, 81:10, 81:14, 81:18, 85:10, 85:13, 85:19, 87:10, 87:13, 89:17, 89:19, 90:4, 91:2, 91:10, 91:21, 93:23, 94:1, 95:2, 95:14, 100:19, 113:15, 118:7, 119:11, 119:21, 119:24, 120:6, 120:10, 120:16, 120:20, 120:24, 121:1, 126:5, 128:19, 128:25, 129:10, 130:8, 130:11, 130:21, 131:4, 131:6, 131:9, 132:19, 133:22, 134:3, 135:6, 135:24, 136:1, 137:8, 137:12, 137:14, 137:18, 138:7, 139:2, 143:12, 143:14, 145:4, 145:13, 145:15, 145:24
court [1] - 65:5
Court [36] - 5:16, 11:9, 11:20, 12:8, 12:11, 12:15, 12:18, 12:19, 12:23, 13:1, 13:3, 13:12, 14:3, 14:9, 15:16, 17:5, 18:6, 26:6, 32:7, 33:23, 34:7, 56:9, 59:15, 61:4, 96:5, 98:10, 114:9, 117:11, 123:3, 129:25, 130:2, 132:16, 135:8, 138:10, 147:13
Court's [1] - 114:6
Courthouse [1] - 2:22
courtroom [1] - 65:9
cover [6] - 9:13, 11:18, 35:8, 35:9, 37:9, 37:22
covering [1] - 132:14

covers [2] - 11:8, 132:14
create [9] - 68:9, 69:21, 100:3, 102:7, 106:12, 115:1, 118:3, 118:18, 134:23
created [1] - 98:21
creates [1] - 31:3
creating [5] - 97:25, 99:4, 114:12, 114:13, 116:7
critical [1] - 58:14
critically [1] - 57:23
CRR [2] - 2:21, 147:12
crystallize [1] - 101:12
CSR [3] - 2:21, 147:12, 147:13
current [234] - 19:12, 19:18, 19:19, 20:11, 26:11, 27:18, 27:19, 27:21, 28:6, 28:8, 28:9, 37:7, 39:10, 39:22, 39:23, 40:12, 40:21, 41:1, 41:9, 42:1, 42:5, 42:8, 42:11, 42:16, 43:13, 44:6, 44:9, 44:18, 44:22, 46:17, 46:21, 47:4, 49:7, 55:21, 56:21, 62:17, 63:17, 64:17, 64:18, 66:25, 67:2, 67:10, 67:11, 68:4, 72:5, 72:7, 72:8, 72:25, 73:3, 73:5, 73:8, 73:12, 73:14, 73:15, 73:20, 74:1, 74:2, 74:4, 74:6, 74:12, 74:13, 74:14, 74:15, 74:17, 74:19, 74:20, 74:21, 75:2, 75:3, 75:5, 75:6, 75:7, 75:11, 75:13, 76:1, 76:5, 76:7, 76:11, 76:12, 76:14, 76:21, 76:23, 77:5, 77:9, 77:10, 77:12, 77:23, 77:24, 78:5, 78:6, 78:14, 78:23, 78:25, 79:1, 79:5, 79:6, 79:8, 79:9, 79:11, 79:14, 79:15, 79:18, 79:19, 79:22, 79:25, 80:1, 80:2, 80:8, 80:11, 81:1, 81:21, 81:23, 81:25, 82:4, 82:11, 82:12, 82:19, 82:25, 83:2, 83:4, 83:5, 83:9, 83:10, 83:11, 83:12, 83:13, 83:14, 83:16, 83:17, 83:19, 83:20, 83:23, 84:1, 84:2, 84:6, 84:11, 84:13, 84:17, 84:19, 84:23, 84:24, 85:5, 85:7, 85:21, 86:3, 86:4, 86:5, 86:6, 86:10, 86:11, 86:12, 86:19, 86:20, 87:4, 87:5, 87:6, 87:8, 87:21, 87:23, 87:25, 88:1, 88:12, 88:15, 88:18, 88:21, 88:22, 88:24, 88:25, 89:1, 89:12, 89:22, 89:23, 89:25, 90:2, 90:3, 90:12, 90:14, 90:16, 90:17, 90:18, 90:25, 91:7, 91:19, 92:3, 92:5, 92:6, 92:8, 92:12, 92:21, 93:8, 93:18, 94:3, 94:5, 94:9, 94:17, 94:19, 94:20, 94:25, 95:6, 95:10, 103:16, 114:14, 115:3, 119:3, 120:12, 124:5, 124:18, 124:19, 125:7, 125:10, 125:14, 125:15, 125:16, 125:17, 132:1, 132:8, 136:23
Curtis [1] - 70:5
curve [5] - 29:23, 64:10, 97:9, 99:15, 99:24
Cutler [2] - 2:13, 2:16

D

data [256] - 20:19, 20:20, 23:8, 23:17,

23:18, 25:4, 29:12, 29:16, 29:18, 29:21, 29:22, 29:23, 56:19, 64:8, 64:10, 68:9, 95:17, 96:3, 96:6, 96:7, 96:9, 96:10, 96:13, 96:14, 96:18, 97:1, 97:2, 97:5, 97:9, 97:10, 97:12, 98:1, 98:14, 98:20, 99:4, 99:10, 99:14, 99:15, 99:16, 99:25, 100:3, 100:4, 101:1, 101:3, 101:5, 101:8, 101:13, 101:14, 101:15, 101:18, 101:19, 101:23, 101:24, 101:25, 102:4, 102:5, 102:8, 102:10, 102:14, 102:16, 102:17, 102:20, 102:24, 103:2, 103:9, 103:10, 104:2, 104:6, 104:9, 104:12, 104:19, 104:23, 105:2, 105:5, 105:6, 105:9, 105:15, 105:16, 105:19, 105:20, 105:21, 105:22, 106:1, 106:12, 106:16, 106:21, 106:23, 106:25, 107:3, 107:4, 107:6, 107:7, 107:10, 107:14, 107:19, 107:22, 107:23, 107:24, 108:1, 108:7, 108:9, 108:12, 108:19, 109:3, 109:9, 109:10, 111:6, 111:8, 111:9, 111:13, 111:18, 111:21, 111:22, 111:23, 111:24, 112:5, 112:14, 112:17, 112:20, 112:21, 112:25, 113:1, 113:6, 113:8, 113:19, 113:22, 113:24, 113:25, 114:4, 114:10, 114:12, 114:14, 115:1, 115:13, 115:15, 115:25, 116:7, 117:6, 117:15, 117:18, 117:21, 117:23, 117:24, 118:3, 118:4, 118:11, 118:12, 118:13, 118:14, 118:16, 118:17, 118:19, 118:21, 119:7, 119:9, 119:13, 119:14, 119:17, 119:19, 120:1, 120:3, 120:4, 120:12, 120:15, 120:22, 120:23, 121:3, 121:7, 121:13, 121:17, 122:9, 122:15, 122:21, 125:25, 133:12, 134:8, 134:10, 134:17, 134:18, 134:25, 135:4, 135:13, 135:17, 135:20, 136:7, 136:14, 136:22, 136:25, 137:4, 137:22, 138:20, 139:9, 139:18, 139:19, 139:24, 140:7, 140:16, 140:18, 140:19, 140:21, 140:23, 141:1, 141:5, 141:10, 141:13, 141:16, 141:17, 141:23, 141:24, 142:2, 142:7, 142:25, 143:2, 143:6, 143:8, 143:11, 143:19, 143:21, 144:1, 144:4, 144:11, 144:13, 144:19, 145:1, 145:9, 145:10, 145:12, 145:17, 145:20

DATE [1] - 147:12

daughters' [1] - 90:23

DC [1] - 2:17

deal [3] - 25:9, 99:2, 100:16

dealing [4] - 59:2, 109:21, 115:11, 138:4

decade [1] - 21:5

decide [1] - 12:8

declaration [8] - 56:1, 56:3, 56:8, 65:6, 65:12, 98:11, 138:15, 144:22

declarations [5] - 17:11, 98:9, 118:1, 144:9

declaring [1] - 13:17

dedicated [2] - 23:17, 23:18

deep [1] - 131:8

Defendant [1] - 1:7

defendant [1] - 64:24

DEFENDANT [1] - 2:9

defendant's [2] - 64:25, 96:2

defense [1] - 85:10

define [2] - 27:2, 70:7

defined [1] - 68:3

defining [1] - 91:12

definition [3] - 15:21, 110:9, 128:5

definitions [1] - 21:5

degree [3] - 47:10, 99:7, 132:5

degrees [7] - 105:8, 105:12, 105:13, 105:14, 105:17, 105:24, 106:1

deleted [2] - 54:8, 125:2

dense [1] - 39:2

dependencies [1] - 63:3

dependent [31] - 5:14, 7:6, 7:23, 8:21, 8:22, 8:25, 9:4, 9:9, 10:19, 20:18, 20:21, 28:23, 29:6, 29:25, 30:2, 31:9, 31:20, 37:3, 51:16, 51:18, 51:21, 51:24, 64:6, 84:9, 96:10, 96:16, 97:9, 112:9, 123:22

deposed [2] - 17:18, 142:5

deposition [4] - 46:1, 46:3, 46:9, 124:3

depositions [1] - 58:20

DeRouin [17] - 2:2, 3:10, 81:12, 81:15, 81:19, 85:12, 85:16, 85:20, 87:11, 87:14, 93:25, 94:2, 95:19, 95:24, 123:10

describe [2] - 9:22, 80:21

described [11] - 6:19, 7:3, 9:14, 9:18, 13:1, 56:18, 60:12, 74:10, 79:10, 92:12, 129:18

describes [4] - 13:17, 17:6, 103:22, 110:17

describing [4] - 12:20, 15:13, 62:12, 63:12

description [9] - 59:9, 59:11, 59:20, 59:21, 107:12, 108:24, 109:4, 110:18, 114:25

designed [8] - 10:25, 22:12, 23:18, 23:19, 41:20, 42:11, 82:9, 100:16

desired [1] - 20:2

desmear [7] - 13:5, 13:19, 14:11, 14:13, 14:25, 18:3, 18:7

DESMEAR [1] - 18:8

detail [7] - 29:4, 51:25, 53:3, 58:4, 59:3, 115:23, 130:3

detailed [8] - 10:17, 59:9, 59:11, 59:20, 107:12, 108:23, 109:4, 110:18

details [5] - 9:6, 9:7, 9:9, 10:18, 11:10

determine [9] - 33:22, 34:24, 38:6, 101:25, 103:1, 108:20, 112:14, 113:2, 129:1

determined [1] - 88:3

determining [1] - 101:19

device [3] - 109:22, 109:23, 109:24

devices [2] - 12:14, 64:17
dictionary [1] - 21:5
die [2] - 123:5, 123:7
difference [3] - 5:5, 96:1, 96:2
differences [5] - 11:12, 23:6, 63:21, 99:1, 99:2
different [51] - 4:15, 4:16, 7:8, 7:15, 7:16, 8:4, 20:17, 22:14, 23:5, 23:15, 25:8, 25:9, 26:6, 29:17, 32:23, 32:24, 35:1, 36:6, 36:7, 36:8, 50:4, 55:25, 63:7, 63:21, 64:7, 64:8, 69:25, 79:21, 80:21, 83:22, 83:25, 87:7, 94:7, 97:11, 99:10, 102:11, 102:14, 102:15, 114:20, 116:20, 125:15, 125:16, 129:4, 134:19, 139:11, 141:19, 142:17, 145:18
differentiation [26] - 32:10, 51:11, 51:14, 51:22, 53:4, 57:20, 57:21, 58:7, 64:6, 69:9, 69:21, 69:25, 89:15, 92:15, 92:17, 92:18, 92:24, 111:1, 111:2, 111:16, 112:3, 118:19, 142:13, 142:18
differently [1] - 84:5
differing [1] - 134:9
difficult [1] - 82:21
digital [5] - 30:5, 89:2, 89:7, 90:21, 90:22
digital-to-analog [1] - 30:5
digitally [2] - 125:6, 147:7
direct [4] - 98:10, 109:19, 118:22, 138:14
directed [1] - 95:13
direction [1] - 4:2
directly [10] - 6:16, 8:24, 12:19, 40:11, 46:18, 66:4, 83:2, 104:17, 106:4, 133:10
director [2] - 10:7, 10:11
disagreement [2] - 57:17, 126:19
disclosed [4] - 5:8, 5:9, 98:14, 125:5
discloses [1] - 98:13
disconnected [2] - 111:25, 112:17
discovered [1] - 139:21
discovery [5] - 56:11, 128:12, 129:1, 129:3, 139:21
discuss [2] - 38:13, 127:3
discussed [15] - 12:17, 14:17, 18:24, 20:7, 20:16, 20:18, 20:21, 27:17, 36:21, 52:5, 55:6, 66:19, 73:20, 101:16, 124:8
discusses [3] - 66:3, 130:16, 141:24
discussing [1] - 127:4
discussion [2] - 59:16, 82:5
discussions [2] - 58:20, 132:13
disjunctively [1] - 128:14
dispositive [3] - 33:25, 36:18, 126:13
dispute [14] - 28:7, 37:16, 46:22, 101:12, 101:22, 102:2, 121:20, 121:24, 122:3, 122:16, 128:16, 128:21, 137:17, 139:8
disputed [5] - 15:21, 34:1, 34:5, 84:24, 122:8

disputes [1] - 33:2
distance [3] - 77:17, 77:18, 88:4
distinction [1] - 80:19
District [5] - 2:22, 12:14, 12:18, 13:3
DISTRICT [3] - 1:1, 1:2, 1:18
doctrine [3] - 51:11, 51:14, 142:19
document [6] - 17:1, 65:5, 97:16, 98:11, 114:6, 138:15
documents [2] - 13:18, 61:13
done [6] - 7:18, 15:2, 15:6, 64:13, 111:21, 141:11
Dorr [2] - 2:13, 2:16
double [2] - 13:19, 14:25
down [22] - 11:15, 12:7, 18:5, 19:25, 20:5, 24:22, 28:17, 40:14, 40:18, 44:19, 47:5, 59:10, 60:4, 65:17, 68:5, 85:23, 101:22, 115:8, 128:20, 129:4, 130:21, 144:3
downstream [1] - 123:6
Dr [5] - 65:6, 98:10, 118:1, 144:8, 144:22
draft [3] - 6:12, 35:6, 35:7
drafted [2] - 5:24, 11:16
drafter [7] - 24:3, 24:4, 24:7, 59:14, 61:3, 61:4, 116:19
drafter's [1] - 23:23
drafters [3] - 7:8, 9:17, 15:10
drafting [3] - 5:23, 6:10, 118:11
draw [4] - 11:3, 94:3, 94:16, 95:5
drawing [5] - 10:7, 10:12, 94:10, 94:12, 94:21
drawings [3] - 10:1, 10:4, 10:22
drawn [3] - 16:15, 95:8, 95:9
drive [2] - 26:12, 61:16
drives [1] - 31:14
droop [467] - 4:5, 4:6, 4:21, 5:2, 5:22, 12:3, 12:5, 14:15, 14:16, 14:17, 14:18, 15:4, 16:19, 18:18, 18:23, 19:2, 19:4, 19:7, 19:11, 19:14, 19:15, 19:16, 19:17, 20:6, 20:9, 20:16, 20:17, 20:22, 20:23, 20:24, 21:9, 21:16, 21:22, 21:24, 22:1, 22:3, 22:10, 22:17, 22:22, 22:24, 23:1, 23:3, 23:8, 23:13, 23:16, 24:11, 24:15, 24:16, 24:17, 24:18, 24:24, 24:25, 25:6, 25:12, 25:13, 25:18, 25:19, 26:9, 26:20, 26:23, 26:25, 27:8, 28:11, 28:14, 28:15, 28:19, 28:22, 29:1, 29:3, 29:5, 29:12, 29:19, 29:20, 30:4, 30:10, 30:16, 30:22, 30:25, 31:1, 31:3, 31:5, 31:6, 31:7, 31:14, 31:17, 31:18, 31:23, 32:2, 32:3, 32:4, 32:8, 32:13, 32:20, 33:9, 33:10, 33:11, 33:12, 35:3, 35:5, 36:24, 37:1, 37:4, 37:6, 37:10, 37:12, 37:13, 37:17, 37:18, 37:20, 37:21, 37:23, 38:1, 38:8, 38:9, 38:10, 38:13, 38:14, 38:15, 38:16, 38:19, 38:20, 39:8, 39:11, 39:13, 39:15, 39:19, 39:20, 39:22, 39:24, 40:3, 40:5, 40:8, 40:10, 40:11, 40:12, 40:13, 40:16, 40:17,

40:19, 40:21, 40:22, 40:24, 40:25, 41:1, 41:2, 41:3, 41:5, 41:6, 41:7, 41:8, 41:9, 41:12, 41:13, 41:16, 41:19, 41:21, 42:6, 42:7, 42:9, 42:12, 42:16, 42:18, 43:1, 43:5, 43:6, 43:9, 43:10, 43:12, 43:13, 43:16, 43:17, 43:18, 43:19, 43:20, 43:21, 44:2, 44:4, 44:9, 44:10, 44:11, 44:14, 44:15, 44:23, 44:25, 45:1, 45:3, 45:4, 45:5, 45:11, 45:13, 45:18, 45:19, 45:20, 45:21, 46:13, 46:14, 46:19, 46:23, 47:1, 47:2, 47:11, 47:15, 47:17, 47:18, 47:21, 47:22, 47:23, 47:24, 47:25, 48:7, 48:10, 48:12, 48:23, 49:1, 49:2, 49:3, 49:4, 49:7, 49:10, 49:16, 49:18, 49:19, 49:20, 49:21, 49:23, 49:25, 50:1, 50:7, 50:8, 50:10, 50:17, 50:18, 50:20, 50:22, 51:3, 51:5, 51:7, 51:8, 52:6, 52:8, 52:9, 52:10, 52:11, 52:12, 52:13, 52:14, 52:15, 52:19, 52:20, 52:25, 53:11, 53:12, 53:17, 53:18, 53:20, 53:25, 54:2, 54:4, 54:5, 54:8, 54:13, 54:14, 54:15, 54:16, 54:17, 54:18, 54:22, 55:2, 55:5, 55:7, 55:8, 55:16, 55:19, 55:22, 56:1, 56:2, 56:4, 56:6, 56:12, 56:15, 56:19, 56:20, 56:23, 56:24, 57:8, 57:24, 58:2, 58:4, 58:5, 58:9, 58:10, 58:13, 61:12, 61:19, 61:22, 62:1, 62:7, 62:13, 62:16, 62:17, 62:22, 63:24, 64:1, 64:12, 64:19, 64:21, 65:2, 65:3, 65:19, 65:22, 66:5, 66:7, 66:12, 66:20, 66:22, 66:23, 66:24, 67:7, 67:16, 67:18, 67:25, 68:1, 68:3, 68:5, 68:10, 68:21, 69:2, 69:6, 69:7, 69:11, 69:14, 69:15, 69:17, 69:22, 69:23, 70:11, 70:14, 70:16, 70:21, 70:22, 72:10, 73:20, 80:16, 80:18, 80:20, 81:2, 81:24, 81:25, 84:19, 96:7, 96:18, 97:1, 97:23, 97:24, 98:1, 98:16, 101:15, 101:19, 101:23, 103:17, 103:21, 103:24, 104:10, 105:3, 105:14, 105:18, 106:2, 106:13, 106:19, 107:17, 108:14, 108:20, 111:6, 111:10, 111:13, 111:19, 111:20, 111:22, 112:14, 113:2, 113:20, 113:23, 117:19, 117:22, 118:14, 118:15, 118:17, 119:2, 119:7, 119:17, 121:5, 121:9, 121:14, 121:18, 122:10, 122:14, 122:21, 123:18, 123:22, 123:24, 124:6, 124:12, 124:22, 124:25, 125:12, 125:19, 125:21, 126:1, 127:13, 128:24, 130:25, 131:10, 131:12, 133:13, 137:1
Droop [1] - 21:9
drop [13] - 22:3, 22:5, 26:10, 28:19, 28:20, 39:25, 40:2, 40:4, 41:12, 41:14, 42:21, 50:5, 68:6
drops [2] - 50:3, 62:16
due [3] - 40:20, 99:7, 103:15
duplicative [2] - 142:19, 142:20

<p>during [4] - 7:18, 16:15, 18:20, 114:16</p> <p>dynamic [2] - 136:14, 136:17</p>	<p>environment [4] - 62:4, 62:20, 63:11, 64:23</p> <p>environmental [2] - 99:7, 132:6</p> <p>equal [4] - 71:23, 84:3, 132:25, 133:1</p> <p>equalize [1] - 100:10</p> <p>equally [2] - 119:3, 125:11</p> <p>equals [1] - 133:1</p> <p>equivalent [1] - 49:16</p> <p>equivalents [2] - 7:4, 9:15</p> <p>erroneous [2] - 42:4, 73:11</p> <p>error [14] - 26:12, 30:23, 30:25, 31:1, 31:15, 36:23, 43:19, 44:14, 44:24, 45:1, 45:12, 57:2, 70:24</p> <p>essence [1] - 6:4</p> <p>essentially [15] - 5:6, 5:12, 5:14, 8:9, 9:21, 19:3, 54:23, 65:23, 67:11, 113:21, 114:9, 115:9, 116:7, 143:24, 144:13</p> <p>established [2] - 32:11, 51:22</p> <p>et [1] - 3:4</p> <p>etching [1] - 13:17</p> <p>evidence [16] - 7:11, 12:8, 13:14, 14:3, 14:4, 14:6, 17:11, 17:12, 17:25, 18:1, 21:6, 34:7, 34:9, 34:10, 122:13</p> <p>exact [1] - 111:3</p> <p>exactly [6] - 28:22, 46:11, 77:23, 90:17, 91:8, 126:18</p> <p>example [35] - 7:11, 15:19, 16:18, 20:1, 22:9, 24:21, 28:25, 30:4, 60:2, 63:15, 65:5, 66:15, 97:13, 98:10, 98:15, 98:25, 99:21, 102:13, 102:15, 106:18, 108:5, 110:7, 110:12, 116:3, 116:14, 117:4, 118:24, 119:8, 119:16, 120:11, 128:2, 128:3, 129:7, 137:24, 137:25</p> <p>examples [11] - 24:3, 24:4, 24:6, 25:19, 26:13, 29:25, 61:1, 102:14, 108:7, 118:2, 141:25</p> <p>except [1] - 98:4</p> <p>exclude [4] - 48:6, 76:23, 131:1, 131:11</p> <p>exclusive [1] - 128:6</p> <p>exclusively [2] - 109:17, 110:10</p> <p>exclusivity [1] - 128:7</p> <p>exemplary [1] - 61:2</p> <p>exists [1] - 63:12</p> <p>expect [1] - 10:2</p> <p>expert [15] - 9:7, 13:16, 17:11, 17:22, 30:24, 31:2, 35:14, 55:24, 55:25, 65:1, 98:8, 138:15, 144:20</p> <p>expert's [1] - 56:8</p> <p>experts [1] - 117:25</p> <p>experts' [1] - 55:13</p> <p>explain [4] - 85:13, 87:20, 101:7, 120:1</p> <p>explained [12] - 20:12, 34:8, 43:15, 49:24, 50:2, 55:1, 73:24, 74:11, 79:21, 79:23, 80:13, 123:10</p> <p>explaining [2] - 73:13, 76:3</p> <p>explains [21] - 40:19, 41:18, 43:3, 43:4, 43:11, 43:18, 46:12, 46:19, 73:2, 74:23, 75:2, 75:10, 75:20, 75:24, 87:23, 103:14, 104:2, 106:11, 110:6,</p>	<p>123:17, 140:20</p> <p>explanation [1] - 39:3</p> <p>explicit [1] - 110:9</p> <p>explore [1] - 129:5</p> <p>express [1] - 77:2</p> <p>expressed [1] - 9:11</p> <p>expressly [4] - 17:5, 27:12, 117:9, 117:13</p> <p>extent [6] - 6:13, 10:3, 11:14, 45:14, 53:7, 123:25</p> <p>external [8] - 30:17, 61:16, 61:20, 62:23, 68:24, 69:2, 69:4, 142:16</p> <p>extrinsic [7] - 14:2, 14:4, 17:24, 21:6, 34:7, 34:9, 34:10</p> <p>eyes [1] - 85:1</p>
<p>E</p> <p>early [1] - 139:15</p> <p>easier [2] - 3:24, 38:22</p> <p>easy [1] - 9:19</p> <p>ECF [1] - 79:13</p> <p>effect [4] - 18:11, 32:4, 72:7, 137:6</p> <p>effective [1] - 64:16</p> <p>effectively [5] - 35:11, 49:22, 141:2, 142:14, 143:8</p> <p>efficient [1] - 3:25</p> <p>either [8] - 51:9, 62:23, 67:21, 68:12, 91:17, 128:14, 138:23, 144:24</p> <p>election [1] - 7:18</p> <p>electrical [1] - 12:14</p> <p>electromagnetic [3] - 102:22, 102:23, 102:25</p> <p>element [12] - 7:2, 9:11, 9:18, 9:24, 24:8, 83:18, 85:25, 117:4, 135:10, 135:18, 143:16, 145:11</p> <p>elements [8] - 6:18, 10:25, 58:24, 73:8, 123:4, 125:7, 132:4, 132:8</p> <p>embodies [2] - 116:9, 116:21</p> <p>embodiment [56] - 5:9, 5:12, 5:18, 12:17, 14:23, 16:1, 16:2, 16:4, 16:24, 17:6, 17:8, 18:9, 22:22, 22:23, 23:24, 24:1, 31:25, 56:18, 58:23, 59:6, 59:13, 59:18, 60:17, 66:3, 76:18, 76:24, 77:7, 77:10, 78:9, 82:13, 82:16, 84:9, 86:17, 87:2, 87:19, 89:13, 106:18, 112:16, 115:21, 116:2, 116:11, 116:12, 116:15, 116:16, 116:17, 116:18, 116:22, 117:24, 118:24, 124:24, 125:19, 125:20, 141:24</p> <p>embodiments [26] - 5:8, 6:19, 7:3, 16:7, 16:16, 16:18, 22:19, 28:10, 34:20, 48:7, 60:11, 60:23, 70:2, 70:4, 70:8, 97:17, 98:14, 100:14, 116:13, 118:20, 118:21, 124:12, 127:3, 131:1, 131:11, 131:16</p> <p>emphasize [1] - 115:23</p> <p>emphasizes [1] - 14:23</p> <p>encompass [1] - 97:12</p> <p>encompasses [1] - 116:12</p> <p>end [10] - 13:19, 26:4, 40:4, 60:20, 63:16, 64:14, 71:18, 116:4, 135:2, 138:19</p> <p>ended [1] - 67:22</p> <p>engineers [1] - 40:1</p> <p>England [3] - 17:18, 58:20</p> <p>English [1] - 39:18</p> <p>ensure [3] - 74:13, 74:16, 92:4</p> <p>entire [6] - 5:14, 91:11, 95:10, 114:19, 115:3</p> <p>entirely [7] - 33:11, 35:17, 36:6, 36:7, 78:8, 111:25, 141:21</p> <p>entities [2] - 69:1, 69:3</p>	<p>F</p> <p>F.3d [2] - 12:22, 109:21</p> <p>F.App'x [1] - 110:13</p> <p>facility [1] - 102:22</p> <p>fact [17] - 16:1, 16:6, 41:25, 53:6, 67:20, 77:2, 80:12, 81:23, 82:15, 82:19, 104:6, 110:7, 117:17, 118:4, 122:24, 125:13, 126:15</p> <p>factor [2] - 11:5, 122:10</p> <p>factors [1] - 24:23</p> <p>factory [1] - 136:16</p> <p>factually [1] - 51:12</p> <p>fail [3] - 106:15, 106:24, 112:18</p> <p>fails [1] - 112:4</p> <p>fair [2] - 90:8, 114:22</p> <p>falls [1] - 105:21</p> <p>familiar [2] - 35:25, 36:2</p> <p>far [2] - 126:22, 132:13</p> <p>fast [1] - 131:6</p> <p>faucet [2] - 67:4, 67:10</p> <p>feature [3] - 10:14, 10:23, 110:17</p> <p>features [1] - 11:8</p> <p>fed [1] - 86:21</p> <p>Fed [1] - 14:4</p> <p>Federal [27] - 12:13, 15:17, 17:4, 17:8, 17:23, 32:10, 33:1, 33:3, 33:13, 34:6, 34:12, 36:20, 46:7, 47:20, 70:5, 70:19, 109:15, 109:16, 109:20, 109:21, 110:2, 110:5, 110:13, 110:14, 113:8, 122:24, 129:17</p> <p>feed [3] - 23:8, 83:2, 83:5</p> <p>feedback [44] - 27:19, 28:7, 28:9, 42:20, 42:21, 42:23, 42:24, 48:15, 56:21, 72:7, 74:1, 74:20, 74:21, 75:12, 78:14, 78:15, 79:1, 79:10, 79:15, 79:18, 79:22, 79:23, 80:15, 80:25, 82:4, 82:12, 82:22, 82:25, 83:1, 83:14, 84:7, 84:14, 84:18, 84:23, 84:24, 85:7, 86:10, 86:11, 86:18, 87:8, 93:4, 93:18, 95:10, 100:10</p> <p>feedbacks [1] - 42:19</p> <p>feeds [4] - 19:3, 31:13, 75:3, 86:20</p> <p>FEREYDUN [1] - 1:3</p>	

fetch [3] - 144:1, 144:13, 145:10
fetches [1] - 144:2
FETs [2] - 75:3, 75:5
few [4] - 4:24, 20:25, 71:9, 129:15
field [2] - 17:22, 124:23
Fifth [1] - 2:10
figure [14] - 11:3, 11:7, 34:2, 36:14, 41:11, 45:9, 48:3, 59:22, 60:8, 60:9, 65:25, 70:9, 109:8, 115:20
Figure [61] - 5:12, 9:6, 9:8, 10:3, 10:16, 10:20, 10:24, 11:10, 12:5, 16:2, 16:3, 16:14, 16:25, 18:15, 18:21, 18:24, 25:12, 26:13, 32:1, 35:17, 35:19, 45:8, 58:23, 58:24, 59:12, 59:16, 59:17, 59:21, 59:25, 60:5, 60:14, 60:16, 60:23, 65:14, 65:23, 66:13, 69:17, 70:3, 74:5, 76:18, 79:4, 82:16, 83:17, 85:4, 87:6, 97:18, 97:19, 97:23, 98:3, 115:17, 115:19, 115:20
figures [9] - 8:5, 16:7, 16:12, 16:16, 18:19, 35:16, 45:8, 97:18, 98:7
Figures [2] - 97:19, 100:14
file [3] - 7:19, 21:6, 118:2
filed [5] - 10:20, 13:24, 112:2, 112:6
final [3] - 12:10, 24:24, 70:18
finally [9] - 60:20, 104:11, 107:25, 112:1, 112:12, 113:3, 118:20, 133:7, 143:3
fine [2] - 4:18, 132:25
firm [1] - 36:1
first [42] - 3:20, 4:21, 5:23, 7:19, 8:1, 14:9, 14:14, 16:13, 27:8, 28:13, 30:20, 31:3, 31:8, 33:3, 39:4, 39:7, 39:10, 46:13, 47:10, 53:16, 57:12, 59:20, 60:2, 63:9, 65:6, 65:13, 77:16, 78:18, 87:18, 95:25, 104:8, 105:1, 113:18, 114:13, 116:6, 117:9, 118:23, 132:2, 132:23, 135:3, 139:7, 140:16
first/second [1] - 123:7
fits [1] - 140:16
five [4] - 71:22, 133:20, 133:21, 133:24
FIVR [13] - 55:16, 55:22, 56:11, 56:15, 56:22, 61:9, 61:12, 61:17, 61:21, 69:6
FLACK [12] - 3:12, 126:7, 128:22, 129:6, 129:11, 130:9, 130:12, 130:24, 131:5, 131:8, 131:10, 132:20
Flack [6] - 2:6, 3:12, 123:10, 126:7, 133:2, 133:8
flat [3] - 67:13, 67:14
flawed [1] - 73:3
flaws [2] - 63:1, 99:1
flexibility [1] - 63:6
flip [1] - 140:1
flowing [1] - 67:11
fluctuations [1] - 41:8
fly [1] - 136:14
focus [14] - 4:22, 4:23, 10:2, 12:23, 16:3, 24:5, 25:6, 63:10, 96:20, 96:22, 116:24, 116:25, 131:25, 137:25
focused [3] - 28:10, 71:22, 79:6

focuses [2] - 16:1, 115:24
focusing [1] - 28:19
follow [2] - 85:24, 127:21
following [2] - 31:22, 90:6
follows [1] - 104:19
footnote [1] - 68:2
FOR [3] - 1:2, 2:2, 2:9
force [1] - 115:3
forced [1] - 19:19
foregoing [1] - 147:4
form [3] - 8:21, 8:22, 8:25
format [2] - 18:21, 89:5
formula [1] - 19:23
forth [10] - 8:7, 8:23, 10:8, 15:21, 32:2, 60:25, 61:10, 64:16, 66:16, 100:10
four [5] - 17:16, 57:9, 68:20, 68:24, 107:13
fourth [1] - 51:10
friend [1] - 46:5
front [3] - 101:2, 127:15, 127:19
full [3] - 57:14, 65:25, 118:23
full-bodied [1] - 65:25
fully [2] - 57:16, 141:21
function [169] - 9:12, 14:16, 19:11, 19:14, 19:16, 19:17, 20:6, 20:10, 20:13, 20:22, 20:23, 21:10, 21:17, 21:22, 21:24, 22:1, 22:11, 23:3, 24:16, 24:17, 24:19, 24:24, 26:23, 28:15, 30:25, 31:3, 31:6, 31:7, 32:4, 37:6, 37:10, 37:12, 37:14, 37:18, 37:20, 38:15, 38:17, 38:20, 39:8, 39:11, 39:13, 39:19, 39:20, 39:22, 39:23, 40:3, 40:6, 40:8, 40:11, 40:13, 40:17, 40:22, 40:24, 41:1, 41:3, 41:6, 41:8, 41:13, 41:16, 41:21, 42:7, 42:9, 42:12, 42:18, 43:6, 43:16, 43:17, 43:19, 43:22, 44:2, 44:5, 44:11, 44:15, 44:16, 44:21, 45:1, 45:4, 45:6, 45:13, 45:19, 46:14, 46:16, 46:20, 46:24, 47:1, 47:2, 47:3, 47:12, 47:15, 47:17, 47:18, 49:7, 49:24, 49:25, 50:1, 51:5, 52:6, 52:13, 52:15, 53:1, 53:13, 54:13, 54:15, 54:16, 54:23, 55:7, 55:17, 55:19, 55:22, 56:2, 56:5, 56:7, 56:12, 56:15, 56:19, 56:23, 58:2, 58:5, 61:12, 61:19, 61:23, 62:2, 62:7, 62:14, 62:18, 62:22, 63:24, 64:1, 64:19, 64:21, 65:3, 65:15, 65:19, 65:20, 66:1, 66:2, 66:7, 66:22, 66:23, 66:24, 67:7, 67:14, 67:15, 67:17, 67:18, 68:3, 69:3, 69:6, 69:12, 69:14, 69:15, 69:17, 69:23, 70:14, 80:16, 80:18, 81:24, 90:1, 90:2, 103:17, 103:21, 124:6
functions [4] - 20:10, 45:21, 64:13, 140:24
fundamental [6] - 5:5, 5:15, 53:3, 54:9, 57:2, 70:24
furnish [1] - 10:7
furthermore [1] - 111:17
fuses [1] - 136:9

G

gain [7] - 75:12, 85:6, 86:21, 100:10, 115:8, 115:10, 125:9
gee [1] - 29:25
general [13] - 6:20, 8:2, 14:5, 29:1, 57:12, 59:20, 60:2, 60:10, 60:13, 60:15, 65:18, 143:4, 144:20
Generally [1] - 17:24
generally [5] - 6:21, 32:22, 51:15, 138:21, 138:24
generate [1] - 68:10
generic [1] - 72:20
Geringer [4] - 2:20, 87:18, 89:14, 95:20
given [5] - 13:9, 71:10, 85:2, 105:13, 105:14
glad [1] - 116:25
goal [6] - 23:14, 24:15, 49:8, 55:1, 55:4, 83:3
goals [2] - 20:17, 23:21
Google [5] - 77:14, 77:15, 88:2, 88:3, 102:13
govern [2] - 5:20, 6:12
governing [1] - 5:21
Grant [1] - 2:15
graphed [1] - 19:18
Gripp [1] - 2:18
guess [1] - 116:19
guidance [1] - 129:23
guide [4] - 34:1, 34:4, 127:1, 127:6
guiding [2] - 126:24, 131:19

H

Hale [3] - 2:13, 2:16, 3:15
halfway [2] - 59:10, 62:11
hand [4] - 16:15, 28:15, 28:16, 114:17
hand-drawn [1] - 16:15
handling [1] - 36:1
hang [1] - 78:21
happy [4] - 62:9, 65:10, 81:8, 128:11
hard [3] - 45:23, 58:16, 96:20
hardly [1] - 22:20
head [1] - 85:14
hear [4] - 35:4, 38:4, 65:10, 68:13
heard [10] - 22:3, 32:19, 35:2, 38:3, 97:13, 102:12, 104:5, 127:1, 130:19, 136:15
HEARING [1] - 1:15
hearing [2] - 3:4, 117:10
heart [1] - 132:12
heat [1] - 66:16
heavy [1] - 126:11
Hejazi [3] - 45:18, 103:19, 108:11
held [1] - 123:3
help [5] - 6:4, 23:23, 34:24, 51:8, 52:1
helpful [2] - 103:12, 138:17
Hemingway [1] - 39:1
Herbold [1] - 2:9

HERNANDEZ ^[1] - 1:17
high ^[4] - 20:3, 99:7, 124:4, 132:4
high-level ^[1] - 124:4
higher ^[1] - 19:19
highlight ^[3] - 39:6, 43:24, 127:12
highlighted ^[4] - 106:10, 140:17, 140:20, 141:12
highlights ^[1] - 35:13
highly ^[4] - 33:24, 35:22, 36:17
himself ^[1] - 113:13
HIRSCH ^[10] - 100:21, 118:8, 119:14, 119:23, 119:25, 120:9, 120:15, 120:17, 120:22, 120:25
Hirsch ^[4] - 2:12, 3:15, 34:22, 100:21
Historically ^[1] - 40:19
historically ^[1] - 132:7
history ^[2] - 7:19, 21:6
hold ^[1] - 68:14
holding ^[2] - 140:7, 143:8
holds ^[1] - 123:22
holes ^[1] - 129:4
home ^[4] - 77:16, 88:4, 88:6, 88:8
Honor ^[71] - 3:3, 3:14, 3:18, 4:19, 32:15, 32:19, 33:18, 35:18, 37:24, 43:23, 45:7, 46:25, 55:12, 57:1, 57:6, 68:20, 70:25, 71:6, 71:9, 71:25, 76:8, 76:19, 76:25, 77:14, 78:7, 78:18, 78:24, 80:12, 80:13, 81:7, 81:12, 81:15, 87:9, 87:12, 87:15, 90:8, 92:10, 92:14, 93:22, 95:3, 95:16, 100:21, 100:23, 101:1, 101:11, 101:12, 102:12, 104:5, 106:15, 106:22, 109:6, 113:7, 118:8, 119:10, 120:5, 120:25, 121:2, 122:17, 126:6, 126:7, 129:6, 129:11, 132:20, 132:21, 133:15, 139:3, 139:6, 142:17, 143:3, 145:14, 146:3
Honor's ^[3] - 109:19, 110:12, 118:22
HONORABLE ^[1] - 1:17
hooked ^[1] - 109:24
host ^[2] - 52:21, 80:3
hot ^[1] - 84:5
hour ^[2] - 71:22, 77:20
hours ^[1] - 57:9
Houston ^[1] - 2:8
Howard ^[1] - 2:5
hypothesizing ^[3] - 140:3, 140:4, 143:5
hypothetically ^[1] - 86:5

I

i.e ^[11] - 20:10, 37:6, 46:15, 47:3, 73:4, 73:14, 74:2, 76:14, 89:10, 122:8, 122:13
idea ^[8] - 12:3, 124:5, 130:14, 130:19, 130:20, 130:23, 132:12, 134:12
ideal ^[1] - 22:7
identical ^[1] - 92:22
identify ^[1] - 6:3
ignore ^[4] - 35:11, 35:19, 36:21, 77:1
ignored ^[2] - 50:11, 54:23

illogical ^[1] - 128:5
image ^[1] - 28:16
implement ^[8] - 44:4, 45:1, 56:5, 61:12, 62:13, 66:1, 69:14, 69:15
implemented ^[3] - 44:22, 64:21, 65:20
implementing ^[3] - 62:22, 63:23, 69:17
implements ^[10] - 22:10, 43:19, 44:15, 45:4, 45:13, 54:22, 55:22, 56:15, 56:19, 69:11
import ^[3] - 5:13, 117:14, 134:12
importance ^[4] - 57:14, 57:17, 130:4, 142:6
important ^[17] - 5:1, 12:25, 14:5, 32:25, 37:11, 43:24, 45:24, 57:15, 57:22, 57:23, 58:14, 135:7, 136:2, 137:8, 141:8, 142:4
importantly ^[2] - 45:17, 142:24
impossible ^[1] - 137:5
improper ^[2] - 72:9, 93:21
improperly ^[3] - 56:23, 81:6, 86:6
IN ^[1] - 1:1
inability ^[1] - 104:15
inaccuracies ^[14] - 24:12, 41:19, 41:21, 42:6, 42:11, 42:12, 43:1, 55:2, 55:6, 55:7, 73:15, 75:17, 103:15, 125:6
inaccuracy ^[2] - 103:21, 115:12
inaccurate ^[10] - 42:8, 42:9, 63:3, 63:5, 63:25, 88:5, 103:17, 115:7
inadequacies ^[1] - 40:20
inadvertently ^[1] - 49:13
inappropriate ^[1] - 117:14
include ^[4] - 13:2, 37:12, 47:15, 95:11
included ^[2] - 61:17, 141:19
includes ^[12] - 16:12, 19:11, 26:23, 37:10, 37:20, 47:17, 53:12, 66:7, 66:12, 68:4, 112:6, 140:12
including ^[4] - 5:2, 5:22, 55:13, 137:21
inclusive ^[12] - 126:17, 126:20, 127:7, 127:10, 127:16, 127:22, 128:15, 128:17, 128:22, 129:14, 132:18, 132:24
inconsistent ^[3] - 47:14, 54:20, 113:24
incorporate ^[2] - 9:1, 17:2
incorporated ^[2] - 16:11, 23:25
incorporates ^[1] - 16:10
incorrect ^[2] - 90:19, 126:2
incorrectly ^[1] - 91:22
increases ^[4] - 42:3, 42:4, 73:10, 73:11
indeed ^[1] - 10:20
independent ^[13] - 7:21, 7:23, 8:20, 9:3, 51:15, 51:17, 51:19, 51:24, 104:4, 107:16, 111:12, 119:2, 124:22
indicate ^[1] - 133:18
indicated ^[3] - 3:21, 5:3, 57:16
indicates ^[3] - 38:8, 47:25, 72:17
indicating ^[1] - 123:23
indicating ^[4] - 85:20, 86:20, 87:5, 130:10
indication ^[1] - 18:10

indicative ^[1] - 130:14
industry ^[1] - 40:1
inform ^[1] - 59:14
information ^[10] - 30:6, 102:21, 114:8, 115:6, 115:14, 119:12, 120:12, 136:11, 140:9
infringe ^[4] - 55:23, 56:14, 62:3, 64:22
infringed ^[2] - 55:15, 140:5
infringement ^[5] - 26:1, 56:25, 102:3, 102:7, 137:10
infringing ^[2] - 139:12, 139:18
inherent ^[2] - 144:23, 144:25
initial ^[2] - 74:7, 111:5
inner ^[2] - 18:21, 18:22
innovative ^[1] - 124:18
input ^[20] - 16:21, 23:13, 25:20, 30:5, 71:18, 97:2, 97:3, 97:19, 99:18, 99:22, 100:2, 105:11, 111:15, 115:19, 117:5, 117:6, 141:15, 143:18
inputs ^[2] - 28:3, 135:18
insert ^[1] - 121:16
inside ^[1] - 143:24
instance ^[4] - 33:8, 48:9, 79:5, 101:9
instances ^[2] - 48:18, 107:13
instead ^[5] - 33:17, 52:21, 88:6, 108:24, 133:9
instructed ^[1] - 113:9
instruction ^[1] - 37:4
instructions ^[1] - 128:12
instructive ^[1] - 21:8
instructs ^[1] - 129:20
Intel ^[41] - 2:19, 2:19, 3:5, 3:16, 5:6, 5:10, 6:25, 8:9, 9:23, 12:14, 12:15, 12:21, 13:11, 13:15, 17:4, 17:18, 18:13, 25:23, 25:25, 28:9, 32:11, 32:16, 35:24, 55:15, 55:22, 56:15, 58:1, 61:15, 62:21, 66:21, 68:25, 69:1, 69:4, 72:2, 100:22, 121:11, 126:12, 126:21, 139:4
INTEL ^[1] - 1:6
Intel's ^[25] - 11:14, 15:3, 19:3, 20:8, 31:8, 55:16, 57:13, 58:17, 62:3, 63:8, 64:20, 76:17, 76:21, 82:20, 82:24, 83:7, 84:8, 101:14, 102:4, 113:20, 128:12, 128:25, 129:16, 138:15, 143:16
intend ^[1] - 61:7
intended ^[3] - 22:5, 61:1, 66:13
intensive ^[1] - 66:17
intentionally ^[1] - 44:1
intercept ^[1] - 86:20
interesting ^[2] - 21:2, 128:10
interface ^[5] - 18:24, 75:21, 140:12, 140:25, 141:3
interfaces ^[12] - 19:1, 58:12, 71:16, 117:5, 123:21, 134:7, 140:22, 141:9, 141:14, 143:10, 143:17, 144:10
interfacing ^[5] - 107:2, 107:21, 141:7, 144:12, 145:8
internal ^[1] - 19:2

interpret [2] - 35:19, 126:24
interpretation [1] - 45:15
interrupt [1] - 89:17
intrinsic [4] - 14:3, 14:6, 17:25, 122:13
introduced [1] - 31:3
invalidating [1] - 25:25
invalidity [3] - 11:25, 26:2, 26:3
invent [2] - 35:8, 35:10
invented [1] - 9:21
invention [55] - 5:25, 6:3, 6:4, 8:8, 8:11, 8:14, 10:14, 18:15, 22:19, 35:8, 41:18, 41:20, 42:9, 42:10, 43:3, 43:4, 55:2, 55:4, 55:9, 59:9, 59:11, 59:13, 59:20, 60:12, 60:17, 60:23, 60:24, 61:2, 61:10, 62:19, 63:15, 64:15, 73:18, 73:23, 75:21, 100:2, 106:9, 106:11, 106:14, 106:17, 106:18, 110:19, 114:24, 116:9, 116:12, 116:21, 118:24, 118:25, 119:6, 124:5, 124:17, 124:22, 142:4
Invention [14] - 21:18, 21:19, 22:2, 39:5, 63:11, 106:8, 107:1, 107:6, 107:10, 108:23, 109:4, 110:18, 130:17, 131:24
inventions [2] - 7:15, 35:9
inventor [17] - 8:8, 13:18, 17:12, 21:3, 34:10, 34:18, 35:8, 45:18, 45:24, 46:9, 103:6, 103:18, 113:11, 113:12, 124:1, 124:2
inventors [27] - 5:24, 5:25, 6:5, 6:6, 6:9, 13:10, 13:12, 13:21, 17:13, 17:15, 17:16, 18:2, 18:6, 18:14, 35:10, 45:16, 45:17, 45:25, 46:5, 58:20, 59:4, 63:11, 108:12, 142:4, 142:5
invokes [1] - 24:7
involved [11] - 11:4, 35:25, 42:1, 74:1, 77:12, 79:15, 88:17, 88:24, 89:9, 89:11, 92:7
involves [1] - 36:6
involving [3] - 12:13, 12:14, 116:2
isolation [2] - 33:16, 36:15
issue [25] - 5:15, 7:4, 9:23, 11:21, 12:6, 12:7, 13:1, 14:8, 14:9, 18:18, 69:21, 95:13, 98:9, 101:8, 110:1, 114:23, 117:8, 117:10, 121:7, 123:2, 129:19, 132:12, 134:1, 135:7, 138:17
issued [3] - 10:10, 112:8, 112:10
issues [7] - 6:22, 8:3, 11:14, 12:25, 25:22, 25:23, 36:8
itself [18] - 14:7, 16:24, 17:1, 17:3, 38:10, 38:12, 47:24, 59:17, 66:1, 69:14, 70:7, 72:19, 73:25, 86:14, 114:8, 117:2, 117:3, 122:20
IV [1] - 2:20

J

James [7] - 2:2, 2:18, 2:20, 3:10, 81:12, 81:15, 95:19
Jeff [2] - 3:8, 4:19
Jeffrey [1] - 2:2

JEFFREY [33] - 3:8, 4:7, 4:13, 4:19, 26:17, 27:1, 27:4, 27:6, 27:15, 27:24, 57:11, 65:18, 68:17, 68:19, 81:12, 95:16, 95:25, 100:20, 113:16, 133:15, 133:24, 134:4, 135:9, 135:25, 136:4, 137:11, 137:13, 137:15, 137:19, 138:12, 143:13, 143:15, 145:6
Jim [1] - 95:20
job [3] - 6:1, 103:1, 144:25
joint [4] - 8:8, 127:8, 127:9, 128:23
Jordan [3] - 2:12, 3:15, 100:21
Jr [1] - 2:6
judge [1] - 23:24
JUDGE [1] - 1:18
judges [1] - 24:5
judgment [1] - 12:9
jump [16] - 33:23, 34:6, 37:15, 40:18, 42:14, 43:2, 43:25, 44:12, 46:7, 49:11, 54:20, 54:25, 73:22, 78:11, 93:15, 123:25
June [1] - 1:5
jury [1] - 12:7
justify [1] - 53:8

K

keep [4] - 49:8, 59:17, 59:23, 131:6
key [2] - 13:1, 140:1
Kimberly [1] - 2:19
kind [14] - 15:18, 17:23, 29:15, 61:8, 89:19, 90:6, 126:10, 127:6, 127:11, 130:13, 131:19, 131:23, 143:1, 143:5
kinds [3] - 129:4, 131:16, 136:15
kitchen [1] - 144:7
Klarquist [3] - 2:3, 3:9, 3:10
known [7] - 21:20, 21:22, 42:20, 55:19, 101:21, 115:4, 115:5

L

language [30] - 6:21, 14:12, 15:18, 25:13, 32:9, 34:15, 38:8, 41:23, 50:14, 72:15, 72:16, 110:24, 122:3, 122:6, 125:24, 127:3, 127:20, 127:21, 129:20, 129:22, 131:18, 132:23, 133:7, 133:11, 140:11, 141:3, 141:7, 143:9
lap [1] - 114:18
larded [1] - 10:16
large [2] - 63:13, 64:19
larger [1] - 93:5
last [15] - 60:21, 71:17, 95:19, 98:7, 104:11, 116:20, 117:4, 119:2, 130:5, 131:22, 135:12, 135:18, 141:11, 143:16, 145:11
law [6] - 5:21, 6:10, 6:11, 35:20, 53:3, 129:17
lawyer [7] - 6:13, 13:24, 13:25, 59:22, 60:18, 60:22, 63:8
lawyers [3] - 21:11, 46:4

layer [1] - 7:7
lead [2] - 24:23, 82:7
leads [1] - 83:8
learn [1] - 4:8
learned [4] - 56:11, 56:22, 69:6
least [11] - 5:9, 8:13, 9:18, 14:11, 19:21, 22:7, 52:7, 62:1, 68:18, 97:4, 122:10
leave [2] - 68:11, 84:21
Lee [6] - 2:18, 38:21, 39:6, 50:24, 77:3, 93:5
left [8] - 35:16, 56:14, 85:24, 93:6, 122:3, 122:6, 122:9, 125:3
legal [2] - 12:10, 36:23
legally [1] - 51:12
length [1] - 5:4
Leseman [2] - 122:25, 129:16
less [2] - 14:5, 17:25
level [1] - 124:4
levels [1] - 67:12
life [6] - 81:21, 81:23, 81:25, 82:1, 84:18, 84:19
light [1] - 33:17
limit [12] - 6:18, 7:2, 9:17, 13:12, 14:21, 19:15, 34:20, 51:19, 60:18, 60:22, 70:3, 70:16
limitation [17] - 8:23, 51:17, 52:11, 52:20, 64:24, 69:22, 92:19, 104:11, 111:15, 121:16, 134:23, 139:1, 139:16, 140:17, 140:20, 141:11, 141:14
limitations [11] - 5:13, 6:24, 7:1, 9:1, 13:2, 29:13, 111:12, 112:7, 123:2, 140:15
limited [17] - 5:8, 5:11, 8:15, 13:5, 14:12, 17:7, 27:10, 51:18, 52:5, 52:14, 67:7, 67:20, 96:10, 138:21, 138:22, 138:24
limiting [5] - 18:11, 69:16, 70:1, 70:4, 70:8
line [45] - 19:18, 19:20, 19:24, 20:3, 20:4, 23:12, 39:5, 39:6, 40:15, 41:24, 41:25, 55:3, 55:19, 67:13, 67:14, 73:1, 73:2, 99:11, 103:13, 103:14, 106:7, 106:17, 107:1, 107:5, 107:9, 107:16, 107:20, 107:23, 107:25, 108:5, 108:6, 112:24, 118:23, 119:1, 119:2, 119:3, 119:6, 126:15, 128:2
lines [17] - 40:15, 40:18, 43:8, 43:12, 46:19, 48:21, 49:12, 49:15, 50:16, 50:25, 74:11, 75:1, 75:9, 75:20, 123:16, 123:20, 130:1
listed [1] - 74:2
listening [1] - 58:17
lists [1] - 52:21
literally [2] - 13:7, 26:2
litigation [3] - 2:18, 2:18, 136:1
live [1] - 17:17
LLP [4] - 2:3, 2:6, 2:13, 2:16
load [25] - 20:4, 23:13, 23:14, 23:21, 24:14, 25:5, 25:7, 25:8, 25:20, 48:22,

48:24, 55:19, 64:3, 71:18, 74:7, 97:2, 100:11, 111:14, 115:3, 115:4, 115:5, 117:6, 130:7, 141:15, 143:18
load's ^[1] - 48:25
loads ^[2] - 25:9, 63:7
logical ^[1] - 128:5
London ^[2] - 21:4, 46:2
Look ^[2] - 110:5, 124:24
look ^[39] - 5:1, 8:10, 18:13, 20:14, 25:13, 29:24, 33:14, 33:21, 33:22, 34:3, 34:9, 34:24, 36:14, 36:15, 38:2, 39:4, 41:22, 48:3, 54:12, 58:3, 58:10, 59:16, 59:17, 72:12, 84:9, 88:23, 91:11, 96:19, 96:24, 97:6, 101:1, 102:6, 103:13, 117:1, 128:11
looked ^[5] - 17:13, 21:4, 34:11, 34:16, 102:13
looking ^[6] - 15:3, 70:9, 88:4, 127:5, 129:3, 134:3
looks ^[3] - 77:16, 77:17, 91:13
loop ^[39] - 27:19, 28:7, 28:9, 42:21, 42:23, 56:21, 72:7, 74:1, 74:20, 74:21, 78:14, 78:16, 79:1, 79:10, 79:15, 79:18, 79:22, 79:23, 80:15, 80:25, 82:4, 82:12, 82:25, 83:1, 83:14, 84:7, 84:14, 84:18, 84:24, 85:7, 86:10, 86:11, 86:12, 86:18, 87:8, 93:4, 93:18, 95:11
loops ^[3] - 42:20, 42:24, 82:22
Loss ^[1] - 21:9
loss ^[18] - 14:18, 22:3, 24:25, 26:10, 28:15, 28:19, 29:1, 41:5, 41:7, 41:8, 41:9, 41:13, 43:13, 43:16, 68:1, 68:6
LOVE ^[34] - 3:8, 4:7, 4:13, 4:19, 18:6, 26:17, 27:1, 27:4, 27:6, 27:15, 27:24, 57:11, 65:18, 68:17, 68:19, 81:12, 95:16, 95:25, 100:20, 113:16, 133:15, 133:24, 134:4, 135:9, 135:25, 136:4, 137:11, 137:13, 137:15, 137:19, 138:12, 143:13, 143:15, 145:6
love ^[26] - 33:8, 34:19, 35:2, 35:14, 36:3, 36:9, 38:3, 39:12, 46:2, 47:6, 48:5, 50:12, 52:24, 57:7, 68:25, 69:8, 81:9, 100:24, 101:11, 110:24, 118:20, 123:10, 123:12, 133:20, 142:12, 145:16
Love ^[3] - 2:2, 3:8, 4:19
Love's ^[3] - 47:11, 141:2, 142:9
love's ^[1] - 32:19
lower ^[6] - 19:11, 19:20, 39:9, 44:5, 46:16, 55:21
lowering ^[4] - 44:17, 44:21, 65:15, 68:4
lowers ^[4] - 20:10, 37:7, 46:20, 47:3
Luke ^[1] - 2:20

M

MA ^[1] - 2:14
machine ^[2] - 21:15, 144:25
machinery ^[1] - 137:2

main ^[5] - 12:17, 16:24, 47:9, 96:2, 134:21
major ^[1] - 40:20
manage ^[1] - 21:14
mandates ^[1] - 122:14
manner ^[1] - 132:24
manufacturer ^[3] - 39:16, 102:19, 109:11
manufacturing ^[16] - 23:4, 32:5, 63:1, 63:2, 82:8, 83:22, 98:25, 100:17, 101:3, 101:5, 115:12, 130:18, 131:14, 132:3, 132:15, 133:10
Maps ^[4] - 77:14, 77:15, 88:2, 88:3
MARCO ^[1] - 1:17
Markowitz ^[1] - 2:9
mashood ^[1] - 2:19
masked ^[2] - 35:17, 45:9
match ^[4] - 114:14, 124:19, 125:14, 125:17
matched ^[2] - 117:24, 125:10
mathematical ^[1] - 20:13
matter ^[13] - 3:4, 14:5, 35:20, 53:3, 67:20, 111:5, 119:22, 120:21, 135:6, 139:6, 141:5, 141:6, 144:14
matters ^[5] - 119:25, 139:6, 139:7, 139:14, 139:25
mean ^[28] - 8:15, 11:10, 15:9, 15:20, 17:1, 23:15, 31:25, 33:10, 33:22, 34:25, 36:15, 41:20, 54:2, 54:8, 57:21, 57:25, 62:21, 66:22, 67:17, 70:13, 78:13, 108:19, 109:11, 116:24, 121:22, 126:2, 135:14
meaning ^[30] - 14:18, 15:22, 15:23, 28:19, 32:5, 32:8, 33:6, 33:9, 34:1, 34:5, 42:2, 54:10, 70:20, 70:23, 72:11, 81:5, 96:25, 104:9, 110:10, 121:12, 121:16, 122:1, 122:16, 127:16, 127:18, 130:13, 133:4, 133:5, 145:10
meanings ^[1] - 102:11
means ^[27] - 6:21, 9:11, 24:8, 29:8, 30:7, 30:14, 34:3, 35:5, 38:5, 41:20, 48:4, 49:17, 70:10, 102:9, 107:17, 109:9, 109:10, 110:8, 111:13, 116:22, 117:9, 121:21, 122:17, 122:22, 122:23, 123:12, 129:17
meant ^[3] - 110:6, 119:18, 123:11
measure ^[13] - 72:25, 73:5, 76:21, 82:19, 83:2, 83:4, 83:9, 88:24, 90:25, 92:21, 94:17, 94:25, 105:6
measured ^[16] - 44:9, 74:7, 74:20, 76:1, 76:6, 77:12, 78:6, 80:2, 83:11, 87:25, 88:11, 88:12, 88:22, 88:25, 92:3
measurement ^[13] - 42:8, 74:1, 74:13, 74:17, 74:19, 77:22, 86:11, 88:6, 88:7, 88:8, 89:1, 90:20, 92:4
measurements ^[2] - 42:4, 103:16
measures ^[39] - 72:4, 72:8, 73:4, 73:11, 73:15, 74:6, 74:14, 75:3, 75:7, 76:11, 76:14, 77:9, 77:24, 78:5, 79:7, 79:8, 79:25, 83:17, 83:19, 84:11, 84:13,

85:5, 86:6, 86:19, 87:4, 87:6, 87:21, 88:21, 89:7, 89:22, 89:25, 90:11, 90:14, 90:17, 94:5, 94:19, 94:20, 102:23
measuring ^[15] - 76:12, 76:23, 77:15, 79:3, 79:15, 79:19, 80:8, 80:11, 81:1, 88:18, 88:24, 89:10, 89:11, 92:8
mechanism ^[2] - 125:8, 125:9
meet ^[5] - 24:14, 62:10, 62:11, 64:25, 114:17
meets ^[4] - 23:14, 25:20, 48:24, 66:10
Melvin ^[5] - 56:1, 65:7, 118:1, 144:8, 144:22
Melvin's ^[1] - 98:10
memory ^[109] - 20:20, 29:13, 29:16, 29:21, 29:22, 64:8, 64:11, 97:1, 97:7, 99:16, 99:17, 99:23, 100:4, 105:1, 105:16, 105:21, 113:23, 115:14, 117:7, 117:20, 117:22, 119:13, 119:15, 119:17, 119:20, 119:23, 120:2, 120:5, 120:7, 120:8, 120:11, 120:13, 123:21, 134:8, 134:13, 134:17, 134:18, 134:19, 135:1, 135:4, 135:20, 135:23, 135:25, 136:8, 136:10, 137:5, 137:10, 137:20, 137:22, 138:1, 138:3, 138:20, 138:21, 138:23, 138:25, 139:8, 139:9, 139:10, 139:13, 139:16, 139:19, 139:20, 139:25, 140:5, 140:13, 140:14, 140:18, 140:19, 140:21, 140:22, 141:1, 141:3, 141:8, 141:10, 141:13, 141:17, 141:19, 141:20, 141:23, 141:25, 142:2, 142:6, 142:7, 142:16, 142:23, 143:1, 143:4, 143:10, 143:19, 143:20, 144:4, 144:6, 144:11, 144:12, 144:14, 144:15, 144:17, 144:19, 144:21, 145:1, 145:5, 145:9, 145:17, 145:20
mention ^[7] - 24:15, 29:10, 106:22, 110:16, 112:5, 139:19, 142:24
mentioned ^[15] - 22:24, 98:24, 100:25, 101:1, 105:7, 106:4, 111:8, 112:13, 113:5, 115:18, 140:5, 140:6, 143:7, 145:21
mentions ^[4] - 101:2, 112:20, 139:10, 139:12
merely ^[18] - 37:20, 38:10, 48:7, 48:11, 48:13, 48:15, 49:1, 49:3, 49:10, 49:18, 49:20, 50:7, 51:6, 54:14, 56:20, 70:15, 72:6, 72:19
methods ^[4] - 64:17, 100:6, 116:5, 116:6
Michael ^[3] - 2:12, 3:14, 32:15
microprocessor ^[5] - 22:9, 22:15, 23:6, 61:22, 61:23
middle ^[1] - 135:3
midpoint ^[1] - 20:2
might ^[6] - 6:6, 13:23, 68:23, 91:13, 136:18, 145:18
min ^[1] - 20:2

<p>mind [6] - 5:25, 6:6, 13:21, 59:17, 64:23</p> <p>minimum [3] - 11:7, 16:4</p> <p>minutes [8] - 36:3, 71:4, 71:23, 133:16, 133:21, 133:24, 138:12</p> <p>minutiae [2] - 6:10, 6:11</p> <p>mirror [1] - 28:16</p> <p>miscited [1] - 49:13</p> <p>mismatch [2] - 132:8, 132:10</p> <p>misquote [1] - 130:4</p> <p>missing [1] - 26:19</p> <p>mistake [1] - 92:10</p> <p>mode [8] - 8:7, 9:20, 13:22, 16:5, 18:9, 65:25, 66:14, 115:23</p> <p>modes [1] - 9:21</p> <p>modifier [1] - 127:15</p> <p>modifies [3] - 54:17, 56:7, 66:1</p> <p>modify [2] - 56:1, 65:2</p> <p>modulator [11] - 80:7, 80:14, 83:3, 86:22, 86:24, 93:5, 93:7, 93:13, 94:9, 94:14</p> <p>moments [1] - 15:15</p> <p>money [1] - 11:2</p> <p>monitored [1] - 48:23</p> <p>morning [5] - 71:3, 77:21, 100:21, 101:16, 126:11</p> <p>Most [1] - 73:8</p> <p>most [15] - 9:8, 96:15, 126:17, 126:19, 127:7, 127:10, 127:16, 127:22, 128:15, 128:17, 128:22, 129:14, 132:17, 132:24, 142:24</p> <p>Motley [1] - 2:20</p> <p>move [7] - 4:5, 19:24, 20:5, 68:12, 68:21, 71:18, 102:18</p> <p>MR [103] - 3:8, 3:10, 3:12, 3:14, 3:18, 3:23, 4:1, 4:4, 4:7, 4:8, 4:13, 4:19, 18:6, 26:17, 27:1, 27:4, 27:6, 27:15, 27:24, 32:15, 32:18, 44:20, 57:6, 57:11, 65:18, 68:14, 68:17, 68:18, 68:19, 68:20, 71:6, 71:9, 71:21, 78:24, 79:2, 81:11, 81:12, 81:15, 81:19, 85:12, 85:16, 85:20, 87:11, 87:14, 87:15, 89:18, 90:3, 90:8, 91:8, 91:16, 91:23, 93:25, 94:2, 95:3, 95:16, 95:23, 95:24, 95:25, 100:20, 100:21, 113:16, 118:8, 119:14, 119:23, 119:25, 120:9, 120:15, 120:17, 120:22, 120:25, 121:2, 126:6, 126:7, 128:22, 129:6, 129:11, 130:9, 130:12, 130:24, 131:5, 131:8, 131:10, 132:20, 132:21, 133:15, 133:19, 133:23, 133:24, 134:4, 135:9, 135:25, 136:4, 137:11, 137:13, 137:15, 137:19, 138:12, 139:3, 143:13, 143:15, 145:6, 145:14, 145:16</p> <p>multicasting [2] - 110:3, 110:4</p> <p>multiphase [7] - 52:22, 75:22, 84:1, 100:11, 114:19, 124:19</p> <p>multiple [9] - 7:8, 8:21, 24:23, 34:12, 36:9, 52:22, 80:14, 110:4, 125:15</p> <p>must [11] - 10:14, 15:6, 15:8, 15:9,</p>	<p>15:20, 17:7, 33:16, 83:8, 83:16, 123:6, 132:24</p> <p style="text-align: center;">N</p> <p>name [1] - 76:4</p> <p>named [4] - 45:17, 83:11, 108:12, 113:11</p> <p>nancy [1] - 2:21</p> <p>Nancy [1] - 147:11</p> <p>NANCY [1] - 147:12</p> <p>narrow [8] - 5:11, 9:20, 12:1, 14:23, 28:24, 30:2, 30:3</p> <p>narrower [1] - 30:11</p> <p>narrowly [2] - 12:16, 28:9</p> <p>natural [1] - 141:8</p> <p>near [3] - 124:19, 125:14, 125:16</p> <p>necessarily [4] - 83:1, 84:6, 84:13, 122:11</p> <p>necessary [3] - 10:7, 24:13, 25:4</p> <p>need [10] - 13:6, 27:11, 72:7, 83:6, 91:1, 106:3, 121:17, 130:21, 131:2, 131:13</p> <p>needn't [1] - 66:8</p> <p>needs [5] - 6:13, 127:6, 127:8, 131:15, 140:19</p> <p>network [2] - 109:22, 109:25</p> <p>Networks [1] - 109:20</p> <p>never [9] - 31:10, 99:19, 101:2, 101:4, 108:24, 140:6, 141:24, 143:7, 144:16</p> <p>new [4] - 42:25, 124:17, 136:11, 137:4</p> <p>next [18] - 37:15, 39:14, 40:9, 40:10, 44:12, 57:5, 68:12, 68:15, 73:16, 75:9, 80:9, 95:15, 95:16, 107:7, 119:5, 121:1, 121:3, 124:21</p> <p>non [4] - 45:17, 124:2, 136:8, 142:5</p> <p>non-plaintiff [3] - 45:17, 124:2, 142:5</p> <p>none [9] - 14:10, 19:2, 48:11, 97:19, 112:8, 112:20, 112:24, 145:18, 145:19</p> <p>nonprovisional [1] - 10:12</p> <p>nonvolatile [84] - 20:20, 29:13, 29:16, 29:21, 64:8, 64:11, 97:1, 97:7, 99:16, 99:17, 99:23, 100:4, 113:22, 115:14, 117:7, 117:20, 117:22, 119:13, 119:15, 119:17, 119:20, 119:23, 120:2, 120:5, 120:7, 120:8, 120:10, 120:13, 123:21, 134:7, 134:13, 134:17, 134:19, 135:1, 135:4, 135:20, 135:23, 136:8, 137:5, 137:10, 137:20, 137:22, 138:1, 138:3, 138:23, 138:25, 139:8, 139:9, 139:10, 139:13, 139:16, 139:18, 139:24, 140:13, 140:14, 140:18, 140:19, 140:21, 140:22, 141:1, 141:3, 141:7, 141:10, 141:13, 141:17, 141:20, 141:23, 142:2, 142:6, 142:7, 142:16, 142:23, 143:1, 143:10, 143:19, 143:20, 144:4, 144:11, 144:12, 144:21, 145:9</p> <p>note [5] - 37:11, 45:24, 71:21, 89:15, 116:6</p> <p>noted [2] - 80:13, 129:18</p>	<p>notes [1] - 14:10</p> <p>Nothing [1] - 122:12</p> <p>nothing [24] - 13:13, 37:21, 37:23, 53:20, 54:4, 54:5, 55:8, 61:3, 62:7, 78:16, 79:18, 80:7, 80:10, 81:1, 85:6, 86:7, 93:7, 93:14, 93:18, 93:20, 95:11, 105:22, 138:13</p> <p>notice [4] - 22:18, 23:12, 59:12, 65:14</p> <p>notion [2] - 97:10, 114:23</p> <p>nowhere [2] - 54:13, 114:3</p> <p>number [20] - 20:17, 22:14, 24:1, 24:23, 47:6, 47:7, 63:18, 76:15, 83:21, 86:8, 86:25, 97:17, 97:18, 98:20, 100:5, 105:8, 105:11, 127:1, 127:2, 131:18</p> <p>numbers [3] - 59:23, 60:6, 60:9</p> <p>nutshell [1] - 100:18</p> <p>NW [1] - 2:16</p> <p style="text-align: center;">O</p> <p>object [1] - 61:15</p> <p>objectives [1] - 23:16</p> <p>obligation [1] - 10:22</p> <p>obviously [3] - 8:4, 124:8, 134:21</p> <p>occur [1] - 54:12</p> <p>occurs [1] - 120:14</p> <p>OEMs [1] - 69:3</p> <p>OF [2] - 1:2, 1:16</p> <p>offense [1] - 95:24</p> <p>Office [4] - 7:9, 7:14, 10:10, 10:23</p> <p>Official [1] - 147:13</p> <p>offset [1] - 83:21</p> <p>often [5] - 18:14, 19:18, 59:1, 134:25, 138:2</p> <p>old [2] - 108:19, 136:22</p> <p>omitted [3] - 24:2, 100:5, 125:2</p> <p>once [3] - 12:11, 114:6, 136:9</p> <p>one [110] - 3:20, 4:16, 6:12, 6:22, 7:21, 8:6, 8:9, 8:11, 8:13, 8:18, 9:3, 11:2, 11:7, 12:1, 12:5, 12:10, 12:23, 15:5, 16:1, 16:4, 16:5, 16:24, 19:1, 19:23, 21:11, 21:16, 23:9, 24:24, 25:6, 25:23, 27:13, 28:5, 29:19, 30:18, 34:10, 35:16, 39:14, 45:16, 45:17, 49:11, 49:14, 50:9, 50:14, 50:15, 52:7, 57:6, 59:4, 59:13, 59:17, 60:1, 60:17, 63:2, 63:4, 63:18, 64:5, 65:5, 68:14, 69:8, 76:17, 77:16, 79:14, 81:13, 82:20, 82:22, 83:13, 83:25, 86:14, 90:10, 90:22, 93:25, 94:8, 95:18, 95:21, 98:7, 108:11, 115:2, 115:16, 116:10, 117:24, 120:18, 121:16, 121:18, 121:22, 122:10, 126:2, 127:12, 128:9, 129:15, 129:24, 131:1, 131:2, 131:12, 131:13, 131:14, 131:22, 132:5, 132:25, 133:3, 133:9, 133:17, 134:6, 135:12, 138:5, 138:6, 139:8, 139:12, 145:14</p> <p>One [2] - 2:7, 15:1</p> <p>ones [1] - 47:9</p>
--	---	---

oOo [1] - 147:1
open [1] - 67:22
opening [5] - 44:1, 44:3, 44:13, 50:11, 54:23
operating [2] - 100:6, 101:20
operation [4] - 23:14, 23:21, 25:20, 104:24
operations [1] - 22:14
opinion [3] - 12:22, 12:24, 14:20
opponent's [1] - 127:11
opposing [6] - 81:20, 82:7, 82:14, 94:2, 94:11, 94:23
opposite [2] - 68:5, 108:25
optimize [4] - 22:12, 28:21, 63:6, 66:10
optimizing [1] - 24:20
option [1] - 135:5
optional [5] - 10:9, 15:14, 23:10, 98:22
options [1] - 22:21
OR [3] - 2:4, 2:11, 2:23
orange [2] - 45:11, 74:5
order [12] - 3:19, 12:17, 24:2, 56:25, 64:21, 72:13, 74:16, 83:9, 87:8, 90:25, 129:1, 144:13
ordinary [1] - 15:22
OREGON [1] - 1:2
Oregon [2] - 1:6, 147:13
original [4] - 7:12, 10:21, 11:4, 147:6
originally [3] - 55:15, 112:2, 112:6
otherwise [3] - 81:8, 133:18, 139:24
ought [9] - 104:19, 109:7, 109:12, 109:13, 109:18, 110:11, 110:19, 113:8, 113:11
outline [1] - 4:3
output [177] - 4:5, 4:6, 12:5, 16:19, 16:20, 19:11, 19:12, 19:15, 20:11, 20:15, 22:13, 23:2, 23:13, 23:16, 24:15, 24:24, 25:1, 25:6, 25:12, 25:18, 25:19, 26:24, 27:3, 27:8, 27:9, 27:13, 27:16, 27:17, 28:11, 28:22, 29:19, 29:20, 30:4, 30:10, 30:17, 31:5, 31:18, 32:3, 32:20, 32:21, 33:11, 35:3, 35:5, 36:24, 37:1, 37:4, 37:7, 37:17, 38:16, 38:19, 38:20, 39:9, 39:10, 39:22, 39:23, 43:10, 44:5, 44:17, 44:22, 45:11, 45:20, 46:17, 46:20, 46:21, 47:3, 47:4, 47:22, 48:10, 50:7, 50:18, 50:23, 51:3, 52:6, 52:8, 52:11, 52:14, 52:19, 52:20, 52:25, 53:11, 53:18, 53:19, 53:21, 53:22, 53:23, 53:24, 53:25, 54:3, 54:14, 54:17, 55:8, 55:21, 56:4, 57:8, 58:4, 58:9, 58:13, 65:22, 66:2, 66:8, 66:9, 66:10, 66:12, 68:1, 68:21, 68:22, 69:22, 69:23, 70:12, 70:14, 70:16, 70:21, 74:6, 75:3, 75:5, 75:7, 76:9, 78:20, 78:22, 79:7, 79:16, 80:5, 80:9, 80:10, 80:17, 80:19, 80:20, 80:24, 81:3, 85:24, 87:16, 88:19, 92:8, 92:11, 92:20, 93:2, 93:3, 93:12, 93:13, 93:17, 95:9, 95:13, 96:18, 97:23, 100:3, 101:20, 106:1, 106:2, 121:18,

122:14, 123:18, 123:22, 127:12, 127:13, 127:14
outputs [201] - 4:22, 5:2, 5:22, 12:3, 12:4, 14:16, 15:4, 18:18, 18:23, 19:2, 19:4, 19:7, 20:8, 20:16, 20:17, 20:24, 23:8, 23:19, 26:21, 27:22, 28:3, 28:4, 28:7, 29:3, 29:5, 29:12, 32:8, 32:13, 37:5, 37:18, 37:19, 37:21, 37:22, 38:1, 38:8, 38:9, 38:10, 38:11, 38:12, 43:5, 43:20, 43:21, 45:3, 45:5, 45:18, 46:13, 47:1, 47:21, 47:23, 47:24, 48:7, 48:12, 48:14, 49:1, 49:2, 49:3, 49:10, 49:18, 49:19, 49:20, 50:8, 50:10, 50:20, 50:22, 51:5, 51:7, 51:8, 52:9, 52:10, 52:12, 52:13, 54:22, 55:7, 56:1, 56:20, 57:24, 64:12, 67:16, 68:10, 71:1, 72:1, 72:3, 72:6, 72:10, 72:11, 72:17, 72:19, 72:20, 72:24, 73:23, 74:24, 75:23, 75:24, 76:3, 76:9, 76:13, 76:20, 76:22, 77:8, 78:3, 78:4, 78:12, 78:13, 81:19, 81:24, 81:25, 82:1, 82:2, 82:3, 82:9, 82:15, 82:17, 83:16, 84:22, 84:23, 87:3, 89:21, 90:12, 91:25, 92:19, 95:5, 96:8, 97:1, 97:2, 98:16, 99:17, 99:22, 101:15, 101:17, 101:24, 101:25, 104:10, 105:3, 105:4, 105:10, 105:13, 105:14, 105:17, 105:18, 105:23, 105:25, 106:12, 106:13, 108:13, 108:14, 108:20, 111:7, 111:9, 111:10, 111:14, 111:19, 111:20, 111:23, 112:15, 113:2, 113:20, 113:23, 117:19, 117:23, 118:14, 118:15, 118:17, 119:17, 119:18, 120:11, 121:4, 121:5, 121:9, 121:14, 121:18, 122:11, 122:21, 122:22, 123:19, 123:23, 125:25, 126:1, 130:25, 131:11, 131:12, 133:12, 133:13, 137:1
outside [3] - 22:2, 41:10, 41:12
overall [1] - 125:9
overcome [4] - 35:23, 54:11, 82:9, 104:3
overheated [1] - 63:4
overheating [1] - 24:22
override [1] - 36:19
overwhelmingly [2] - 16:1, 21:7
overwrite [1] - 136:10
own [8] - 47:15, 47:17, 55:13, 56:8, 88:24, 128:10, 128:12, 144:20

P

page [8] - 44:3, 97:15, 97:21, 114:5, 114:11, 121:25, 122:12, 138:19
pages [1] - 98:17
papers [5] - 110:23, 112:1, 112:16, 112:20, 112:23
paragraph [14] - 39:7, 98:13, 114:11, 115:16, 116:15, 116:17, 116:20, 118:23, 119:1, 119:3, 119:5, 132:4, 138:17, 139:17

parameters [8] - 29:22, 64:3, 64:9, 66:11, 97:8, 99:15, 99:24, 125:8
pardon [2] - 102:21, 134:5
part [20] - 6:11, 17:2, 27:11, 31:12, 46:13, 46:14, 57:22, 61:24, 62:4, 62:7, 64:15, 64:19, 79:23, 79:24, 101:20, 114:1, 114:11, 142:1, 142:4, 144:23
particular [24] - 6:17, 6:19, 7:22, 8:11, 8:13, 12:4, 13:14, 18:18, 20:25, 22:20, 23:24, 24:6, 33:15, 52:10, 58:23, 62:16, 67:23, 69:16, 70:4, 90:7, 98:9, 110:10, 118:2, 130:2
particularly [1] - 33:18
parties [17] - 3:19, 4:14, 5:4, 6:23, 11:13, 17:16, 28:14, 32:24, 37:12, 37:13, 47:22, 57:18, 84:22, 107:17, 117:11, 117:20
parties' [8] - 19:5, 32:22, 37:16, 113:18, 113:24, 121:19, 128:10, 134:9
parting [1] - 138:6
parts [3] - 8:4, 60:13, 66:24
pass [1] - 13:19
passage [3] - 49:12, 50:6, 106:8
passages [1] - 50:6
passes [2] - 18:2, 18:7
passing [1] - 102:12
Patent [4] - 7:9, 7:14, 10:10, 10:23
patent [194] - 5:9, 5:14, 5:24, 6:1, 6:4, 6:10, 6:11, 6:13, 6:17, 7:5, 7:7, 7:13, 7:22, 8:3, 8:10, 8:12, 8:15, 9:19, 10:13, 10:14, 11:18, 11:23, 12:4, 13:17, 13:24, 13:25, 14:7, 14:20, 14:21, 14:24, 15:5, 15:7, 15:10, 16:1, 16:4, 16:6, 16:10, 16:11, 16:24, 16:25, 17:3, 17:6, 17:7, 17:13, 17:14, 17:16, 17:20, 19:13, 20:16, 21:1, 21:4, 21:8, 21:11, 21:12, 21:17, 21:23, 22:17, 23:23, 24:2, 24:4, 24:7, 24:10, 25:8, 27:16, 28:14, 28:19, 33:20, 33:21, 35:6, 35:7, 35:15, 35:16, 38:2, 38:15, 38:23, 38:24, 39:1, 39:5, 39:19, 39:25, 40:7, 40:19, 41:2, 41:4, 41:14, 41:17, 43:2, 43:11, 43:17, 44:2, 44:7, 45:16, 45:25, 48:3, 48:9, 48:18, 49:13, 49:15, 50:13, 53:3, 54:14, 54:21, 55:1, 56:18, 59:8, 59:15, 59:22, 60:13, 60:18, 60:22, 61:3, 61:4, 62:12, 63:5, 63:9, 64:5, 64:22, 66:3, 66:11, 66:19, 67:6, 67:20, 68:4, 68:8, 69:14, 70:13, 72:13, 73:2, 73:17, 73:25, 74:10, 74:22, 75:2, 75:10, 75:18, 75:20, 75:24, 76:3, 76:18, 78:3, 82:6, 88:11, 88:17, 91:25, 92:12, 94:24, 96:13, 96:16, 97:11, 98:13, 98:19, 98:23, 99:5, 99:19, 101:4, 101:7, 102:9, 103:2, 103:12, 103:14, 103:19, 103:22, 104:2, 106:8, 107:12, 109:8, 109:11, 109:23, 112:8, 112:10, 114:24, 115:22, 116:4, 116:10, 116:19, 118:4, 126:15, 129:2, 129:19, 129:22, 130:1, 130:14,

130:16, 132:13, 134:25, 136:5,
137:21, 141:25, 144:16
patent's ^[1] - 21:8
patentee ^[7] - 102:8, 103:6, 108:18,
109:14, 109:16, 110:17, 110:18
patents ^[6] - 16:3, 36:6, 59:7, 60:7,
131:18
PC ^[1] - 2:9
pen ^[1] - 108:18
Pennsylvania ^[1] - 2:16
people ^[4] - 10:22, 11:5, 21:4, 68:22
per ^[1] - 85:1
perfect ^[4] - 21:15, 124:19, 125:14,
125:16
performance ^[7] - 29:22, 64:3, 64:9,
66:10, 97:7, 99:15, 99:24
performed ^[1] - 24:2
performing ^[2] - 9:12, 58:5
performs ^[4] - 31:7, 58:2, 90:1, 90:2
perhaps ^[2] - 66:14, 90:4
peripheral ^[1] - 28:1
permissive ^[3] - 50:13, 127:3, 131:19
perspective ^[5] - 119:12, 119:21,
120:20, 135:7, 137:9
pertinent ^[1] - 96:16
phase ^[6] - 75:13, 75:23, 84:3, 100:11,
115:2, 115:4
phases ^[13] - 52:22, 114:7, 114:15,
114:20, 114:21, 114:22, 114:23,
124:19, 125:10, 125:14, 125:16, 132:9
phenomenon ^[4] - 63:16, 132:1, 132:2
Phillips ^[14] - 33:3, 33:15, 34:8, 35:21,
36:13, 36:21, 37:25, 38:2, 46:8, 48:2,
57:15, 72:12, 81:4, 103:3
Photoshop ^[1] - 66:17
phrase ^[17] - 101:3, 101:5, 101:8,
101:10, 103:2, 103:7, 103:9, 109:2,
112:25, 113:5, 116:20, 117:15,
121:16, 122:8, 131:23, 131:25
Pickering ^[2] - 2:13, 2:16
picking ^[1] - 109:7
piece ^[3] - 36:10, 46:24, 77:16
pieces ^[1] - 34:10
place ^[7] - 81:20, 86:9, 86:10, 86:17,
87:7, 116:24, 145:25
places ^[5] - 13:9, 21:1, 48:11, 48:12,
96:13
placing ^[1] - 83:7
plain ^[6] - 14:12, 15:22, 32:8, 38:7,
121:12, 127:18
PLAINTIFF ^[1] - 2:2
plaintiff ^[5] - 3:7, 45:17, 95:19, 124:2,
142:5
Plaintiffs ^[1] - 1:4
plaintiffs ^[48] - 3:8, 3:11, 3:13, 4:6, 4:20,
5:7, 5:10, 7:19, 9:24, 11:17, 11:19,
11:25, 17:17, 21:18, 32:1, 35:1, 35:23,
43:23, 43:25, 44:3, 45:4, 45:9, 46:22,
50:12, 51:9, 51:10, 51:13, 55:15, 69:5,
71:11, 71:22, 72:5, 76:15, 78:12,

79:12, 81:16, 89:20, 110:22, 112:1,
121:15, 121:23, 122:7, 123:9, 126:1,
126:8, 127:8, 139:15, 140:4
plaintiffs' ^[19] - 9:7, 10:18, 19:6, 30:24,
31:2, 37:8, 46:4, 52:2, 53:16, 55:12,
70:22, 82:24, 101:18, 102:3, 105:19,
112:12, 122:4, 124:10, 132:17
play ^[1] - 66:17
plural ^[2] - 10:24, 12:4
plus ^[3] - 29:9, 30:14, 31:22
point ^[67] - 12:10, 14:3, 15:24, 17:9,
18:12, 19:14, 19:24, 20:14, 20:22,
20:25, 21:3, 23:7, 23:15, 24:16, 25:12,
26:7, 30:3, 34:13, 34:23, 35:13, 48:12,
48:18, 48:21, 49:5, 49:6, 49:15, 49:23,
57:24, 58:3, 59:3, 60:9, 62:11, 64:14,
66:6, 67:5, 67:7, 68:25, 69:5, 70:1,
70:6, 70:18, 77:17, 78:21, 84:21, 87:2,
89:19, 89:23, 90:7, 93:25, 94:2, 94:13,
98:8, 98:10, 98:22, 106:14, 108:2,
108:16, 112:19, 117:2, 124:24, 130:3,
134:24, 135:2, 140:3, 143:4, 144:9
pointed ^[12] - 34:17, 40:1, 48:19, 49:11,
50:14, 50:16, 50:24, 63:8, 63:9, 69:19,
110:24, 126:14
pointing ^[6] - 12:5, 25:3, 35:24, 91:3,
91:5, 96:1
points ^[15] - 15:18, 32:21, 57:21, 68:15,
68:21, 68:24, 69:8, 87:15, 100:1,
117:3, 118:9, 129:15, 132:22, 140:2,
142:10
portion ^[11] - 44:7, 48:22, 79:14, 96:16,
106:10, 116:4, 124:15, 124:16, 125:3,
125:12
portions ^[6] - 50:9, 50:11, 50:14, 50:15,
113:25, 120:1
Portland ^[4] - 1:6, 2:4, 2:11, 2:23
position ^[4] - 87:3, 96:11, 102:6, 123:8
positioning ^[1] - 55:20
positive ^[2] - 42:1, 73:9
possible ^[8] - 126:17, 126:20, 127:16,
127:17, 127:22, 128:1, 132:18, 132:25
possibly ^[3] - 7:20, 12:9, 112:9
power ^[19] - 21:24, 24:11, 24:13, 25:4,
25:5, 25:8, 28:2, 29:23, 39:9, 42:17,
64:10, 66:15, 66:17, 97:9, 99:15,
99:24, 108:18, 114:8, 114:23
practical ^[1] - 144:14
preamble ^[1] - 140:17
precedent ^[1] - 36:20
preceding ^[1] - 114:11
precise ^[1] - 123:1
precisely ^[2] - 51:20, 122:2
precludes ^[1] - 111:15
preemptively ^[1] - 50:3
preferred ^[14] - 5:17, 18:9, 76:18, 76:23,
77:7, 77:9, 78:8, 82:13, 82:15, 84:9,
86:17, 87:2, 87:19, 89:12
preparation ^[2] - 46:2, 46:3
prepared ^[1] - 70:25

present ^[12] - 41:18, 59:13, 60:17, 61:2,
64:15, 73:18, 75:21, 106:9, 106:11,
110:19, 116:8, 116:21
PRESENT ^[1] - 2:18
presentation ^[3] - 45:9, 58:17, 82:21
presented ^[1] - 18:20
pressure ^[3] - 67:3, 67:4, 67:12
presumably ^[1] - 123:12
pretend ^[1] - 138:10
pretty ^[4] - 8:2, 10:8, 10:9, 39:2
prevents ^[1] - 142:19
previously ^[2] - 8:23, 115:18
primarily ^[3] - 4:23, 6:6, 20:23
primary ^[6] - 5:9, 37:16, 53:14, 76:16,
121:19, 124:10
principle ^[1] - 60:3
principles ^[3] - 32:10, 57:12, 57:15
problem ^[25] - 23:7, 40:20, 41:12, 41:19,
42:13, 52:15, 52:16, 62:15, 70:17,
73:13, 73:18, 78:18, 93:1, 94:22, 99:3,
103:12, 103:14, 103:23, 104:3,
104:14, 125:1, 142:13, 142:21
problematic ^[2] - 126:23, 129:21
problems ^[9] - 21:21, 62:25, 63:13,
63:18, 82:6, 94:22, 98:23, 99:6,
130:18
proceed ^[2] - 32:16, 81:17
proceeded ^[1] - 139:21
proceedings ^[2] - 146:6, 147:5
PROCEEDINGS ^[1] - 1:16
process ^[12] - 13:5, 13:8, 13:18, 14:11,
14:13, 14:24, 14:25, 18:3, 18:8, 33:4,
36:7, 145:19
processor ^[12] - 23:17, 39:16, 63:20,
99:11, 135:19, 135:21, 136:20, 137:3,
143:24, 144:24, 145:5
processor's ^[1] - 41:10
processors ^[2] - 22:12, 137:6
produced ^[1] - 13:18
product ^[1] - 64:25
production ^[3] - 99:8, 99:9, 132:6
products ^[3] - 55:23, 56:16, 102:4
Professor ^[1] - 55:25
program ^[4] - 135:16, 143:25, 144:5
programmed ^[1] - 124:23
prominence ^[1] - 13:8
proper ^[2] - 47:1, 76:9
properly ^[3] - 51:19, 83:24, 116:24
proposals ^[1] - 19:5
propose ^[2] - 42:15, 121:11
proposed ^[19] - 3:19, 19:3, 19:7, 20:8,
37:4, 52:24, 54:19, 69:24, 72:5, 72:9,
76:16, 76:17, 76:22, 77:6, 78:11, 80:5,
90:12, 113:18, 123:14
proposing ^[9] - 26:19, 34:14, 52:16,
53:11, 64:20, 78:12, 83:15, 119:22,
121:15
prosecutors ^[2] - 6:18, 7:7
provide ^[9] - 7:5, 11:20, 58:4, 61:19,

<p>62:24, 74:18, 74:20, 82:23, 85:6 provided [2] - 9:17, 61:20 provides [10] - 24:13, 25:4, 64:15, 76:1, 76:6, 78:6, 88:13, 88:22, 124:22, 129:23 providing [3] - 42:13, 67:21, 77:12 provision [4] - 6:17, 7:2, 9:16, 24:8 provisional [24] - 16:10, 16:22, 17:2, 48:10, 97:14, 97:15, 97:16, 97:22, 98:7, 98:15, 98:18, 100:14, 101:1, 101:2, 103:8, 113:3, 113:5, 114:2, 114:5, 114:13, 114:25, 115:16, 115:17, 118:2 provisions [1] - 11:22 public [2] - 61:13, 109:6 publicly [1] - 61:15 publishes [1] - 61:15 pull [19] - 33:1, 36:12, 36:25, 38:22, 47:13, 48:20, 50:15, 52:3, 55:11, 70:18, 72:2, 72:22, 79:20, 87:17, 92:16, 92:25, 121:6, 121:19, 124:14 pulse [11] - 80:6, 80:7, 80:14, 83:3, 86:22, 86:24, 93:4, 93:7, 93:13, 94:9, 94:14 punished [1] - 116:19 purport [1] - 52:20 purported [2] - 73:23, 103:23 purporting [1] - 103:13 purpose [5] - 23:2, 32:2, 48:16, 55:9 purposes [1] - 29:24 put [17] - 7:24, 17:19, 35:14, 35:15, 50:25, 53:10, 53:15, 80:23, 85:12, 98:12, 102:2, 106:6, 122:2, 122:23, 131:22, 133:2, 134:4 puts [2] - 89:6, 144:7 PWM [3] - 80:3, 80:6, 80:17</p>	<p>rather [8] - 56:7, 66:1, 66:4, 97:23, 110:21, 127:9, 128:5, 135:25 ratio [1] - 66:25 rationale [1] - 94:22 re [1] - 114:8 re-adjust [1] - 114:8 reacting [1] - 50:4 read [24] - 12:17, 17:20, 18:4, 27:25, 33:16, 33:17, 36:15, 40:10, 53:17, 56:24, 69:7, 76:17, 78:19, 81:2, 81:6, 87:19, 89:6, 96:21, 102:7, 124:13, 126:2, 139:17, 141:2, 143:8 readable [1] - 89:5 reading [20] - 24:5, 44:10, 47:11, 47:16, 47:19, 48:1, 59:15, 67:25, 82:15, 84:16, 87:2, 89:12, 90:23, 93:20, 109:8, 124:11, 141:8, 141:21, 142:14, 145:22 reads [4] - 33:11, 83:17, 84:8, 85:11 real [3] - 27:25, 140:10, 142:9 realized [1] - 139:15 really [12] - 13:21, 35:5, 46:15, 55:10, 67:6, 90:24, 94:11, 100:1, 122:16, 141:8, 142:25, 144:14 reason [10] - 15:14, 15:15, 23:25, 48:14, 57:25, 88:15, 104:21, 121:10, 137:8, 139:14 reasonable [1] - 132:9 reasoning [1] - 12:19 reasons [10] - 24:21, 31:4, 32:7, 52:7, 53:14, 66:18, 66:19, 112:4, 139:6, 145:18 received [2] - 105:5, 123:6 receives [3] - 80:14, 80:15, 92:2 receiving [1] - 104:8 recent [1] - 12:13 recently [1] - 17:21 recess [3] - 71:3, 71:7, 146:2 recipients [1] - 110:4 recite [1] - 14:11 recited [4] - 28:5, 30:20, 31:7, 31:9 recites [3] - 50:22, 52:4, 53:2 reciting [1] - 9:12 recollection [1] - 19:6 record [8] - 3:7, 16:12, 17:20, 61:8, 61:11, 97:16, 142:11, 147:4 recorded [1] - 115:14 recovery [1] - 110:15 redundant [1] - 117:13 refer [33] - 12:11, 14:16, 14:25, 30:10, 38:15, 40:2, 40:3, 44:10, 49:2, 49:19, 57:24, 57:25, 60:9, 101:5, 102:17, 102:20, 102:24, 103:9, 105:9, 109:17, 110:10, 110:21, 111:5, 112:23, 112:25, 113:3, 118:11, 118:19, 138:20, 142:3, 142:14, 144:19, 144:20 reference [20] - 8:22, 9:1, 16:12, 17:2, 21:16, 22:1, 22:3, 39:7, 39:10, 49:17, 52:8, 54:3, 66:4, 92:19, 95:20, 108:9, 110:12, 114:10, 115:5, 141:18</p>	<p>referenced [7] - 12:12, 52:24, 68:25, 75:18, 104:7, 118:12, 143:20 references [6] - 22:16, 38:14, 39:12, 40:24, 98:20, 108:7 referred [18] - 19:3, 69:9, 79:5, 88:16, 89:14, 98:17, 101:3, 111:7, 111:9, 112:1, 112:6, 116:3, 118:20, 129:25, 131:18, 132:3, 143:17, 144:18 referring [19] - 32:1, 39:18, 40:8, 40:16, 40:21, 40:24, 40:25, 41:6, 55:6, 56:6, 58:22, 58:23, 59:21, 59:23, 60:14, 64:18, 75:5, 118:12, 119:6 refers [42] - 9:2, 16:8, 23:21, 24:11, 29:1, 39:19, 41:2, 41:15, 43:16, 57:25, 60:6, 60:16, 68:1, 72:18, 79:2, 89:11, 103:12, 104:8, 104:11, 105:1, 106:16, 106:17, 106:20, 107:2, 107:6, 107:7, 107:10, 107:13, 107:16, 107:18, 107:20, 107:23, 107:24, 107:25, 111:13, 118:23, 119:1, 119:3, 125:4, 139:7, 142:1, 142:22 reflect [1] - 18:8 refresh [1] - 19:6 regard [3] - 5:19, 28:7, 81:19 regarding [7] - 9:25, 25:14, 37:16, 57:17, 66:16, 120:11, 121:20 regardless [5] - 88:13, 119:4, 125:11, 125:17, 130:6 regards [2] - 91:7, 120:14 register [3] - 52:22, 52:23, 75:4 registered [1] - 30:5 regulate [5] - 28:5, 28:6, 28:8, 43:5, 103:24 regulated [2] - 64:9, 99:23 regulates [3] - 42:16, 63:1, 73:19 regulation [2] - 22:13, 63:22 regulations [1] - 10:10 regulator [39] - 18:25, 22:10, 22:25, 23:10, 25:9, 29:22, 30:21, 31:23, 32:5, 40:5, 42:17, 48:17, 49:8, 53:19, 53:23, 55:20, 58:12, 61:20, 61:24, 66:3, 68:25, 74:19, 75:6, 75:22, 76:7, 77:13, 78:1, 78:7, 84:1, 84:12, 88:1, 88:14, 88:22, 93:10, 97:7, 99:14, 100:11, 114:19, 124:20 regulators [10] - 4:9, 16:13, 48:16, 61:16, 62:13, 62:23, 69:2, 69:4, 73:3, 103:24 reinforced [1] - 141:22 reiterate [1] - 84:15 rejected [1] - 17:5 relate [9] - 11:14, 14:18, 38:9, 38:13, 72:17, 72:21, 104:19, 104:24, 118:21 related [10] - 7:15, 23:3, 23:4, 40:11, 47:25, 62:25, 70:21, 98:24, 98:25, 109:22 relates [18] - 6:11, 6:16, 54:18, 96:7, 100:3, 101:15, 101:23, 105:3, 106:12, 108:13, 108:15, 109:1, 109:4, 111:14, 111:19, 111:23, 113:19, 118:17</p>
Q		
<p>qualifier [2] - 127:15, 127:19 questions [5] - 65:11, 81:8, 81:10, 85:8, 138:7 quick [9] - 27:25, 68:20, 68:23, 68:24, 82:20, 87:15, 93:25, 118:9, 132:21 quickly [4] - 78:10, 92:15, 95:3, 123:16 quote [7] - 13:18, 13:20, 15:6, 50:24, 55:18, 87:3, 87:22 quoting [1] - 59:4</p>		
R		
<p>rabbit [1] - 129:4 radiation [2] - 102:23, 102:25 raise [2] - 20:12, 89:19 raises [2] - 19:19, 68:4 raising [1] - 89:20 range [11] - 22:8, 41:10, 41:12, 41:14, 42:17, 43:6, 49:9, 50:1, 50:4, 73:21, 100:6 Rassam [1] - 2:19</p>		

relating [3] - 65:7, 80:15, 80:18
relationship [5] - 103:10, 105:20, 107:11, 112:21, 120:3
relatively [2] - 38:25, 123:16
relax [1] - 131:4
relevant [8] - 12:19, 33:2, 33:24, 34:17, 35:22, 36:17, 46:9
reliable [1] - 17:25
relied [1] - 13:15
relies [1] - 18:13
rely [6] - 11:9, 17:12, 49:12, 109:7, 109:12, 109:13
relying [3] - 13:11, 15:7, 15:17
remains [3] - 41:13, 50:1, 86:4
Rembrandt [1] - 110:13
remember [4] - 9:6, 19:17, 93:4, 142:18
remove [1] - 126:3
render [1] - 53:1
Renee [2] - 2:9, 3:16
repeat [1] - 128:20
repeated [4] - 13:5, 14:11, 14:13, 100:6
repeatedly [7] - 34:19, 46:8, 72:18, 106:4, 106:14, 109:17, 116:10
reply [6] - 68:11, 79:13, 121:23, 121:25, 126:14, 138:14
REPORTER [4] - 2:21, 18:4, 128:19, 130:21
Reporter [1] - 147:13
request [2] - 128:15, 132:16
requests [3] - 128:12, 129:1, 129:3
require [14] - 10:8, 13:7, 52:9, 54:12, 58:9, 64:3, 69:1, 69:2, 110:3, 110:15, 117:15, 120:4, 120:18, 133:8
required [7] - 15:16, 37:14, 50:21, 58:22, 123:5, 123:7, 139:16
requirement [3] - 37:1, 96:12, 97:4
requirements [1] - 64:3
requires [4] - 8:12, 51:8, 122:6, 122:9
requiring [3] - 11:22, 13:15, 76:22
resistance [3] - 42:3, 73:8, 73:10
resistor [1] - 86:15
resolving [1] - 13:4
respect [14] - 4:13, 15:11, 15:19, 18:14, 35:12, 42:2, 51:12, 57:12, 57:20, 59:6, 69:21, 82:13, 116:1, 118:10
respectfully [1] - 53:6
respects [3] - 6:3, 27:1, 27:6
respond [4] - 32:21, 57:7, 100:23, 110:21
response [1] - 69:8
rest [4] - 8:5, 28:18, 37:2, 125:2
result [5] - 22:14, 51:23, 103:20, 123:4, 124:18
results [3] - 10:13, 42:4, 73:11
reused [1] - 142:8
reversed [1] - 12:19
reviewed [1] - 35:21
reviewing [1] - 21:7
rewrite [2] - 126:3, 127:20

rising [1] - 136:18
risk [1] - 66:16
Riverway [1] - 2:7
RMR [2] - 2:21, 147:12
road [1] - 12:7
Ronald [2] - 2:6, 3:12
Ronnie [1] - 126:7
Room [1] - 2:22
room [1] - 68:23
rothauge [1] - 2:9
Rothauge [1] - 3:16
roughly [1] - 71:23
routinely [1] - 138:20
Rowan [13] - 2:15, 39:3, 40:1, 41:4, 41:11, 43:15, 49:24, 50:2, 73:24, 79:20, 79:23, 80:12, 105:7
rule [1] - 59:7
rules [5] - 9:25, 10:23, 11:23, 14:4, 54:9
run [7] - 45:23, 114:18, 140:8, 143:25, 144:5
runners [1] - 114:17
running [1] - 135:16
rush [1] - 77:20

S

safe [1] - 144:3
Salmon [1] - 2:3
sample [1] - 100:2
saw [2] - 9:6, 20:1
schedule [1] - 133:17
scheduled [1] - 133:15
schematic [2] - 59:13, 60:17
Schmitt [1] - 2:19
scientists [1] - 138:20
scope [9] - 5:18, 51:16, 51:20, 51:24, 53:2, 69:25, 92:23, 111:3, 112:10
screen [15] - 7:24, 35:15, 37:12, 38:22, 43:7, 53:10, 53:15, 54:6, 77:2, 77:3, 89:6, 98:12, 106:6, 106:10, 134:4
se [1] - 85:1
seat [2] - 3:2, 71:8
second [18] - 33:13, 44:12, 46:14, 48:5, 49:11, 54:19, 57:20, 58:16, 65:4, 68:15, 70:1, 72:22, 78:21, 89:14, 114:2, 123:14, 133:2, 140:20
second/third [1] - 123:5
section [4] - 8:19, 106:8, 107:6, 107:10
Section [17] - 6:15, 6:24, 7:22, 7:24, 8:1, 8:12, 8:17, 10:1, 10:6, 10:11, 11:21, 12:1, 12:6, 12:20, 24:7
sections [1] - 36:9
security [2] - 109:22, 110:1
see [33] - 13:23, 14:25, 15:8, 21:14, 22:1, 22:2, 28:1, 30:19, 38:2, 59:19, 60:5, 60:6, 63:9, 71:1, 72:12, 79:22, 79:24, 82:24, 85:19, 86:2, 91:15, 91:16, 96:19, 96:20, 98:20, 98:21, 98:23, 113:17, 115:7, 128:3, 131:18, 134:2, 137:7

seeking [1] - 5:7
select [1] - 17:19
self [1] - 91:14
self-contained [1] - 91:14
send [2] - 41:9, 88:5
sending [1] - 45:11
sends [4] - 61:23, 74:7, 74:15, 75:7
sense [268] - 16:19, 16:20, 26:11, 27:16, 27:17, 28:7, 31:13, 43:13, 47:14, 48:23, 49:4, 49:7, 54:15, 56:20, 64:12, 68:22, 71:1, 72:1, 72:3, 72:5, 72:10, 72:17, 72:18, 72:21, 72:23, 72:24, 73:14, 73:23, 74:2, 74:4, 74:5, 74:6, 74:7, 74:9, 74:14, 74:15, 74:16, 74:23, 74:24, 75:2, 75:4, 75:6, 75:8, 75:10, 75:12, 75:13, 75:15, 75:17, 75:22, 75:23, 75:24, 75:25, 76:1, 76:3, 76:4, 76:5, 76:9, 76:13, 76:20, 76:22, 77:4, 77:5, 77:8, 77:10, 77:11, 77:24, 78:2, 78:3, 78:4, 78:12, 78:17, 78:19, 78:22, 79:1, 79:3, 79:5, 79:7, 79:9, 79:10, 79:11, 79:16, 79:25, 80:1, 80:5, 80:10, 80:18, 80:19, 80:24, 81:2, 81:19, 81:21, 81:22, 81:23, 82:1, 82:2, 82:9, 82:11, 82:14, 82:17, 82:18, 83:11, 83:12, 83:13, 83:16, 83:19, 83:23, 84:1, 84:6, 84:16, 84:18, 84:21, 84:23, 85:21, 85:24, 85:25, 86:3, 86:4, 86:5, 86:19, 87:3, 87:5, 87:16, 87:21, 87:22, 88:10, 88:15, 88:16, 88:17, 88:19, 88:20, 88:23, 89:4, 89:9, 89:11, 89:23, 90:1, 90:2, 90:16, 90:18, 91:5, 91:7, 91:19, 91:20, 91:25, 92:1, 92:2, 92:3, 92:7, 92:8, 92:11, 92:12, 92:13, 92:19, 92:20, 93:2, 93:8, 93:9, 93:12, 93:14, 93:16, 93:17, 93:19, 93:20, 94:3, 94:4, 94:19, 95:5, 95:6, 95:7, 95:8, 95:9, 95:13, 96:7, 96:18, 97:1, 100:9, 101:15, 101:19, 101:23, 104:10, 104:14, 104:16, 104:25, 105:3, 105:13, 105:17, 105:18, 106:1, 106:12, 106:13, 106:19, 108:13, 108:20, 111:7, 111:9, 111:13, 111:19, 111:20, 111:23, 112:14, 113:2, 113:19, 113:23, 117:19, 117:22, 118:14, 118:15, 118:16, 119:8, 119:18, 119:25, 121:4, 121:8, 121:14, 121:18, 122:10, 122:14, 122:21, 123:19, 123:23, 123:24, 125:4, 125:15, 125:20, 125:25, 126:17, 126:20, 127:12, 127:13, 127:22, 128:23, 128:24, 129:14, 130:25, 131:10, 131:11, 131:12, 132:8, 132:18, 133:12, 137:1
senses [4] - 42:15, 42:21, 72:8, 73:19
sensing [33] - 40:12, 40:21, 42:1, 42:11, 42:16, 63:17, 73:3, 73:9, 73:20, 74:12, 75:11, 76:12, 78:17, 79:2, 79:6, 79:15, 79:19, 80:8, 80:11, 81:1, 87:24, 88:18, 93:14, 93:19, 95:12, 100:15, 103:16,

124:6, 125:7, 125:8, 125:9, 125:15, 132:1
sensor [4] - 98:4, 98:5, 115:20, 115:21
sensors [1] - 89:3
sent [3] - 77:25, 88:1, 91:25
sentence [12] - 39:6, 39:14, 39:15, 40:9, 40:10, 56:6, 107:8, 124:21, 127:17, 127:24, 130:6
separate [4] - 6:2, 11:3, 85:5, 120:17
separated [1] - 123:4
separately [1] - 124:6
set [16] - 8:7, 8:23, 19:23, 20:22, 24:16, 39:15, 39:22, 39:23, 40:5, 40:10, 40:16, 40:22, 42:10, 44:9, 67:5, 67:7
sets [1] - 57:15
setting [5] - 15:21, 40:19, 40:21, 40:25, 42:7
settings [17] - 24:11, 24:14, 25:5, 48:24, 49:4, 101:20, 106:19, 107:17, 119:2, 119:8, 121:18, 122:15, 123:22, 124:23, 127:13, 127:14
seven [2] - 106:23, 106:24
several [4] - 12:12, 61:11, 127:9, 128:23
shall [7] - 8:7, 8:18, 8:22, 8:25, 9:13, 10:6, 128:13
share [1] - 114:22
shared [2] - 119:3, 125:11
sharing [1] - 124:18
shelf [1] - 144:7
shop [1] - 133:16
short [1] - 27:19
shortcomings [1] - 64:16
shorthand [6] - 39:20, 40:17, 41:3, 41:16, 42:18, 44:2
show [9] - 7:25, 10:14, 10:23, 10:25, 36:10, 36:11, 97:14, 104:22, 112:9
showed [5] - 11:22, 36:9, 41:11, 85:3, 90:23
showing [3] - 31:25, 65:23, 135:5
shown [10] - 16:2, 16:15, 16:25, 25:11, 26:13, 69:17, 69:18, 76:18, 79:24, 106:10
shows [9] - 12:5, 45:10, 46:23, 48:12, 53:7, 54:7, 56:13, 82:16, 86:17
side [4] - 56:13, 123:6, 126:10
side-by-side [1] - 56:13
sides [1] - 126:11
signal [20] - 61:23, 74:7, 74:15, 74:21, 76:2, 76:7, 77:13, 77:25, 78:6, 80:2, 85:7, 86:25, 87:25, 88:1, 88:12, 88:13, 88:14, 88:22, 89:1, 92:3
signals [2] - 80:14, 80:15
signature [3] - 147:6, 147:7
signed [1] - 147:7
significant [1] - 31:19
signing [1] - 147:3
similar [1] - 81:24
similarly [3] - 98:19, 99:11, 138:2
simple [3] - 19:22, 27:21, 40:4
simpler [1] - 65:19

simply [9] - 20:21, 69:5, 76:25, 101:19, 111:3, 122:23, 124:5, 125:2, 132:14
single [7] - 17:6, 34:1, 34:4, 48:9, 113:6, 116:17, 137:17
situation [1] - 23:24
situations [2] - 102:15, 136:17
six [1] - 16:13
skilled [1] - 60:24
skip [1] - 39:14
slide [78] - 33:1, 33:13, 33:23, 34:6, 35:13, 36:12, 36:25, 37:11, 37:15, 38:7, 38:19, 38:21, 41:17, 41:24, 42:14, 43:2, 43:7, 43:25, 44:12, 44:13, 45:8, 45:15, 46:7, 46:12, 46:22, 47:13, 48:20, 49:12, 52:3, 53:10, 53:15, 54:6, 54:20, 54:25, 55:3, 55:11, 55:24, 56:3, 56:10, 70:18, 72:2, 72:14, 72:22, 73:1, 73:8, 73:17, 73:22, 74:5, 74:22, 75:1, 75:19, 78:11, 79:20, 80:23, 87:17, 87:23, 92:25, 93:15, 106:7, 121:6, 121:11, 121:19, 122:2, 122:19, 123:1, 123:14, 123:25, 124:14, 125:22, 130:5, 130:12, 133:2, 133:7, 140:10, 142:10
slides [1] - 127:11
slightly [3] - 83:25, 99:10, 116:20
slope [2] - 20:22, 24:16
sloppy [1] - 134:15
slow [6] - 18:5, 24:22, 44:19, 65:17, 128:19, 130:21
slowed [1] - 47:5
slowly [1] - 38:25
small [3] - 14:14, 115:8, 130:3
smartphone [2] - 102:16, 109:9
smorgasbord [1] - 10:24
software [2] - 102:19, 109:10
solution [5] - 42:13, 42:14, 64:16, 103:23, 104:16
solutions [1] - 132:9
solve [5] - 21:22, 62:15, 99:3, 103:13, 104:15
someone [1] - 109:7
sometimes [8] - 9:5, 15:7, 18:13, 40:2, 40:3, 50:13, 108:2, 136:8
somewhat [1] - 41:4
somewhere [2] - 67:1, 135:21
sorry [11] - 25:16, 29:2, 40:15, 41:24, 44:20, 120:9, 130:8, 131:5, 134:15, 137:15
sort [3] - 6:2, 18:21, 19:20
sorts [2] - 11:23, 79:3
sought [1] - 117:11
source [2] - 62:16, 86:16
spades [1] - 68:8
Sparkman [3] - 2:3, 3:9, 3:10
spec [1] - 138:2
special [1] - 7:2
specific [23] - 6:7, 6:17, 9:16, 22:18, 29:23, 41:22, 51:18, 52:4, 59:6, 60:8, 61:17, 64:10, 67:8, 95:12, 97:9, 99:24,

101:8, 102:8, 102:17, 102:20, 102:24, 103:2, 103:7
specifically [11] - 28:6, 34:9, 43:7, 47:22, 50:21, 51:8, 60:14, 76:19, 104:5, 110:25, 138:1
specification [90] - 5:13, 6:20, 7:3, 8:2, 8:3, 8:6, 8:18, 9:14, 9:19, 12:2, 12:18, 13:9, 25:14, 32:9, 33:14, 33:17, 33:22, 33:24, 34:4, 34:12, 34:16, 34:24, 35:11, 35:22, 36:14, 36:16, 36:17, 36:22, 38:14, 38:18, 38:19, 41:18, 43:3, 46:10, 46:18, 48:1, 48:22, 48:25, 50:10, 52:5, 54:20, 57:14, 57:18, 57:22, 58:15, 58:21, 59:5, 59:16, 60:12, 60:21, 60:25, 61:1, 70:9, 72:23, 73:22, 85:2, 101:10, 103:4, 103:5, 106:4, 106:14, 106:22, 107:13, 108:3, 109:3, 109:14, 110:5, 113:10, 113:12, 117:1, 120:1, 123:15, 124:15, 124:17, 126:13, 126:17, 126:25, 127:1, 127:5, 127:21, 127:23, 127:24, 128:1, 129:20, 140:7, 141:22, 145:21, 145:23
specification's [2] - 45:2, 77:1
specifications [11] - 23:14, 23:22, 24:14, 25:5, 25:7, 25:10, 25:21, 61:16, 122:14, 126:24, 143:7
specified [3] - 9:12, 10:14, 41:10
specifies [1] - 139:11
specify [1] - 8:23
spend [1] - 57:9
spent [1] - 36:3
spike [5] - 14:19, 22:5, 24:25, 28:16, 68:6
spikes [1] - 62:16
squared [1] - 35:20
standpoint [1] - 10:18
start [21] - 4:4, 4:6, 5:19, 33:5, 37:25, 38:7, 59:23, 60:5, 67:1, 81:20, 87:17, 94:21, 95:25, 96:15, 116:14, 117:1, 126:9, 129:3, 136:24, 139:5, 144:7
started [4] - 34:15, 57:13, 57:19, 71:10
starting [10] - 3:7, 16:14, 55:3, 59:19, 72:14, 74:25, 97:17, 97:18, 119:5, 131:25
starts [11] - 59:8, 59:9, 62:12, 67:11, 79:25, 106:8, 114:13, 115:17, 116:18, 118:23, 140:11
State [1] - 2:13
state [4] - 3:6, 44:4, 128:13, 144:25
statement [5] - 15:20, 45:2, 56:8, 77:2, 130:6
statements [10] - 13:10, 13:11, 13:16, 13:20, 14:2, 18:8, 35:21, 55:13, 60:15
STATES [2] - 1:1, 1:18
states [10] - 49:15, 73:25, 77:4, 103:19, 106:19, 119:6, 122:20, 124:17, 126:16, 144:22
States [1] - 2:22
stating [1] - 13:18
statute [1] - 29:8

statutes [5] - 5:20, 6:12, 7:5, 7:6, 7:22
statutory [2] - 7:2, 9:16
stay [1] - 50:3
step [7] - 9:11, 14:14, 32:21, 82:20, 101:11, 145:7
steps [5] - 24:1, 51:2, 100:5, 102:18, 115:9
Steve [1] - 65:6
stick [1] - 133:16
still [6] - 37:12, 46:6, 77:3, 127:13, 127:14, 132:25
stop [3] - 81:7, 106:3, 133:20
storage [1] - 139:18
store [22] - 64:9, 119:17, 134:8, 134:10, 134:11, 134:17, 134:22, 135:21, 135:22, 136:7, 138:18, 139:23, 140:23, 141:1, 141:10, 143:10, 144:11, 144:13, 145:9, 145:10
stored [30] - 20:20, 29:12, 29:16, 29:21, 99:15, 99:16, 100:3, 100:4, 105:16, 113:22, 117:6, 117:19, 119:12, 119:14, 119:19, 119:23, 120:2, 120:4, 120:7, 120:13, 134:12, 135:4, 137:9, 139:9, 141:17, 143:6, 143:19, 144:15, 144:19, 145:17
stores [9] - 29:22, 97:1, 105:1, 137:20, 140:18, 141:5, 142:2, 142:23, 143:21
storing [16] - 97:7, 97:9, 99:23, 134:25, 137:3, 137:4, 138:2, 138:20, 138:24, 139:19, 141:23, 141:24, 144:6, 144:17, 145:1, 145:20
straight [2] - 19:20, 67:15
strained [1] - 145:22
stratus [1] - 122:25
Street [2] - 2:3, 2:13
stretch [3] - 56:24, 102:6, 102:7
structure [4] - 9:13, 9:14, 13:19, 139:23
structures [1] - 141:19
stuff [2] - 29:9, 120:7
subject [2] - 6:24, 9:25
submission [1] - 10:8
submit [20] - 33:10, 36:23, 37:23, 46:25, 53:13, 55:12, 57:1, 72:9, 76:8, 78:7, 78:10, 103:1, 103:5, 106:15, 109:6, 112:3, 112:18, 113:7, 114:9, 122:17
submits [1] - 72:2
submitted [9] - 3:18, 7:11, 7:13, 13:16, 56:8, 65:7, 96:5, 98:8, 145:25
suddenly [1] - 80:18
suggest [2] - 71:12, 76:4
suggested [2] - 47:11, 70:2
suggesting [1] - 91:10
suggestion [1] - 90:7
suggests [5] - 48:25, 70:21, 111:24, 112:21, 113:1
Suite [3] - 2:4, 2:7, 2:10
Summary [8] - 106:7, 107:1, 107:5, 107:9, 108:22, 109:3, 110:17, 130:17
summary [2] - 12:9, 59:8
summersgill [1] - 2:12

SUMMERSGILL [33] - 3:14, 3:18, 3:23, 4:1, 4:4, 4:8, 32:15, 32:18, 44:20, 57:6, 68:14, 68:18, 68:20, 71:6, 71:9, 71:21, 78:24, 79:2, 81:11, 87:15, 89:18, 90:3, 90:8, 91:8, 91:16, 91:23, 95:3, 95:23, 121:2, 126:6, 132:21, 133:19, 133:23
Summersgill [4] - 3:14, 32:15, 68:13, 126:22
supplied [1] - 74:6
supply [5] - 21:24, 24:12, 24:13, 25:4, 39:9
support [11] - 2:18, 2:18, 11:18, 11:23, 12:2, 13:13, 104:21, 112:17, 113:4, 124:16, 145:22
supports [3] - 94:13, 104:17, 106:5
supposed [3] - 8:14, 9:19, 115:5
surrounding [1] - 122:1
suspect [1] - 68:22
synonymous [1] - 76:13
system [22] - 19:10, 24:18, 24:19, 26:23, 37:10, 37:20, 37:22, 53:12, 54:13, 54:15, 54:16, 61:25, 62:2, 62:8, 63:6, 65:3, 66:6, 83:2, 85:6, 110:15, 114:6, 139:12
systems [4] - 19:14, 64:17, 64:18, 83:6

T

TABAIAN [1] - 1:3
Tabaian [1] - 3:4
talks [50] - 8:1, 8:10, 9:10, 10:1, 16:8, 20:16, 22:18, 25:8, 27:16, 28:14, 29:3, 30:16, 41:23, 41:25, 43:1, 63:5, 63:14, 63:15, 63:20, 64:22, 68:9, 94:7, 97:6, 97:22, 97:25, 99:6, 99:13, 99:23, 100:8, 111:6, 113:22, 114:12, 116:1, 116:5, 116:8, 118:2, 118:4, 125:12, 125:13, 134:25, 135:10, 138:1, 138:2, 140:14, 141:12, 141:22, 142:15, 144:8, 144:16, 145:19
tap [1] - 67:3
target [1] - 49:22
task [1] - 113:17
tech [2] - 82:24, 83:7
technical [2] - 24:2, 39:17
technique [1] - 15:1
technology [3] - 46:1, 82:21, 109:22
Techs [1] - 46:8
tellingly [1] - 77:1
temperature [165] - 16:21, 42:1, 42:2, 42:3, 42:5, 48:23, 63:3, 63:4, 63:17, 63:18, 73:6, 73:9, 73:10, 73:15, 82:7, 84:4, 88:13, 89:3, 89:4, 89:8, 90:24, 96:4, 96:8, 96:9, 96:10, 96:12, 96:17, 97:3, 97:8, 97:19, 98:2, 98:4, 98:5, 98:17, 98:21, 98:24, 99:3, 99:4, 99:18, 99:20, 99:22, 100:2, 100:3, 100:12, 100:16, 101:9, 101:13, 101:16, 101:17, 101:21, 101:24, 102:1, 102:5,

103:10, 103:15, 103:16, 103:20, 103:25, 104:6, 104:8, 104:9, 104:11, 104:13, 104:15, 104:17, 104:18, 104:20, 104:24, 105:3, 105:4, 105:5, 105:6, 105:7, 105:8, 105:9, 105:15, 105:20, 105:22, 105:23, 105:24, 106:12, 106:25, 107:3, 107:4, 107:6, 107:11, 107:15, 107:16, 107:18, 107:21, 107:24, 108:1, 108:10, 108:13, 108:16, 108:21, 109:2, 109:5, 111:14, 111:19, 111:20, 111:23, 111:25, 112:15, 112:17, 112:22, 113:13, 114:13, 115:11, 115:15, 115:19, 115:20, 115:21, 115:25, 116:23, 117:3, 117:5, 117:8, 117:12, 117:14, 117:16, 117:25, 118:3, 118:18, 118:22, 119:2, 119:4, 120:3, 121:3, 121:7, 121:13, 121:17, 122:9, 122:15, 122:21, 123:22, 124:9, 124:22, 124:25, 125:4, 125:11, 125:13, 125:17, 125:18, 125:25, 127:4, 130:7, 130:19, 130:24, 130:25, 131:2, 131:13, 131:21, 132:11, 132:14, 132:15, 133:9, 133:12, 136:18, 136:23, 141:15, 143:18
temperature-based [1] - 99:4
temperature-dependent [2] - 96:10, 123:22
temperature-independent [3] - 107:16, 119:2, 124:22
temperatures [7] - 42:17, 43:6, 73:21, 90:23, 100:7, 106:20, 119:8
term [106] - 4:5, 4:16, 4:21, 5:2, 14:15, 15:4, 15:22, 21:13, 29:2, 29:17, 34:1, 34:2, 34:5, 36:24, 37:1, 37:4, 37:8, 37:17, 37:25, 38:1, 38:4, 38:10, 38:12, 39:20, 40:2, 40:17, 41:15, 44:10, 47:15, 47:17, 47:21, 47:24, 48:3, 51:17, 51:18, 51:19, 52:19, 53:17, 54:2, 54:8, 54:10, 56:24, 68:16, 68:22, 70:7, 70:8, 70:9, 70:11, 70:13, 70:15, 70:20, 70:22, 71:16, 71:17, 72:1, 72:3, 72:10, 72:19, 78:19, 79:4, 79:6, 81:2, 81:3, 81:5, 81:6, 92:10, 92:20, 93:16, 93:19, 93:20, 95:5, 95:9, 95:13, 95:17, 95:20, 96:13, 102:8, 102:10, 102:12, 102:16, 102:20, 102:23, 103:11, 106:23, 109:14, 109:16, 110:3, 110:10, 110:20, 112:5, 114:4, 117:11, 121:3, 121:7, 121:12, 121:20, 122:17, 122:20, 129:8, 134:3, 138:4, 138:24, 144:20
terms [33] - 3:20, 4:14, 4:16, 4:22, 4:24, 4:25, 5:11, 5:22, 7:4, 13:3, 14:22, 33:16, 33:19, 33:20, 33:22, 34:23, 34:25, 35:2, 35:4, 36:14, 36:22, 41:5, 71:13, 71:14, 80:21, 84:20, 91:12, 96:6, 103:7, 103:8
terrific [1] - 116:24
test [1] - 26:6

testified ^[1] - 45:18
testimony ^[11] - 17:13, 17:23, 18:13, 21:4, 34:10, 34:18, 45:19, 45:23, 46:9, 103:6, 103:18
text ^[2] - 16:7, 125:2
textual ^[1] - 140:8
THE ^[89] - 1:1, 1:2, 1:17, 2:2, 2:9, 3:2, 3:3, 3:17, 3:22, 3:24, 4:2, 4:10, 4:18, 18:4, 26:15, 26:18, 27:2, 27:5, 27:13, 27:22, 32:14, 32:17, 44:19, 57:4, 57:9, 65:17, 71:2, 71:8, 71:20, 78:21, 78:25, 81:10, 81:14, 81:18, 85:10, 85:13, 85:19, 87:10, 87:13, 89:17, 89:19, 90:4, 91:2, 91:10, 91:21, 93:23, 94:1, 95:2, 95:14, 100:19, 113:15, 118:7, 119:11, 119:21, 119:24, 120:6, 120:10, 120:16, 120:20, 120:24, 121:1, 126:5, 128:19, 128:25, 129:10, 130:8, 130:11, 130:21, 131:4, 131:6, 131:9, 132:19, 133:22, 134:3, 135:6, 135:24, 136:1, 137:8, 137:12, 137:14, 137:18, 138:7, 139:2, 143:12, 143:14, 145:4, 145:13, 145:15, 145:24
theme ^[2] - 130:18, 137:16
themselves ^[5] - 14:6, 17:15, 18:11, 33:5, 62:23
theories ^[1] - 61:10
theory ^[1] - 142:12
therefore ^[2] - 43:21, 76:21
thereof ^[1] - 9:15
thermometer ^[4] - 89:2, 89:7, 90:21, 90:22
they've ^[11] - 21:3, 26:2, 26:4, 35:10, 35:17, 50:24, 53:7, 61:6, 89:16, 95:9, 102:4
Third ^[1] - 2:22
third ^[3] - 50:12, 54:25, 86:23
Thomas ^[1] - 2:18
thousands ^[1] - 26:2
three ^[8] - 52:7, 53:13, 63:5, 69:8, 87:15, 123:11, 132:21, 140:15
throughout ^[4] - 22:17, 97:10, 101:9, 102:18
throw ^[1] - 137:2
thumb ^[1] - 59:7
tie ^[3] - 5:17, 24:6, 96:3
tied ^[3] - 96:17, 98:2, 140:24
title ^[2] - 21:8, 28:18
titled ^[1] - 147:5
today ^[8] - 3:3, 10:2, 26:7, 35:15, 55:25, 110:23, 127:2, 130:15
Todd ^[3] - 2:15, 3:15, 139:3
together ^[3] - 13:3, 90:5, 140:24
took ^[1] - 39:2
tool ^[1] - 7:5
tooth ^[1] - 13:19
top ^[3] - 39:7, 73:7, 75:1
total ^[1] - 125:10
totally ^[3] - 140:8, 140:24, 142:17
touch ^[1] - 84:25

touches ^[1] - 12:25
track ^[1] - 114:17
tracking ^[1] - 102:17
tracks ^[1] - 102:22
traffic ^[2] - 77:21, 88:5
trained ^[2] - 15:10, 15:11
TRANSCRIPT ^[1] - 1:16
transcript ^[2] - 147:4, 147:6
transcripts ^[1] - 17:19
tried ^[6] - 34:14, 48:8, 49:14, 54:11, 112:16, 121:23
tries ^[1] - 24:3
triggering ^[1] - 6:20
trouble ^[2] - 26:18, 90:6
true ^[10] - 8:12, 33:18, 35:7, 62:11, 68:17, 108:3, 111:4, 115:22, 145:4
try ^[8] - 6:3, 21:22, 28:21, 35:23, 38:25, 53:8, 90:9, 113:4
trying ^[20] - 5:12, 34:2, 34:20, 35:9, 45:23, 52:14, 56:23, 60:18, 62:10, 62:15, 63:6, 68:8, 70:2, 70:16, 104:15, 126:3, 127:19, 127:20, 127:21, 129:21
tune ^[2] - 56:12, 69:7
turbo ^[1] - 66:14
turn ^[21] - 36:24, 38:18, 41:17, 45:8, 45:15, 46:12, 53:9, 55:24, 56:10, 70:25, 71:25, 72:14, 72:22, 74:22, 81:8, 85:8, 85:17, 121:2, 121:11, 122:19, 125:22
turned ^[2] - 67:11, 85:17
turning ^[4] - 33:13, 75:9, 75:19, 123:14
turns ^[1] - 134:10
tutorial ^[12] - 5:3, 16:15, 18:20, 19:18, 27:18, 30:18, 73:24, 82:24, 83:7, 114:16, 144:2
two ^[51] - 10:3, 11:8, 13:9, 13:15, 13:17, 17:15, 17:16, 17:17, 18:2, 18:7, 19:5, 19:21, 27:1, 27:6, 27:22, 28:1, 28:2, 28:3, 28:4, 43:24, 48:18, 51:2, 63:2, 65:20, 66:24, 71:14, 73:25, 74:2, 74:18, 77:11, 77:12, 79:9, 79:10, 89:9, 90:5, 92:11, 94:12, 94:23, 95:6, 96:1, 118:8, 123:2, 123:4, 134:19, 136:15, 139:6, 140:24, 142:19, 142:20
two-etching ^[1] - 13:17
TX ^[1] - 2:8
type ^[9] - 6:21, 36:7, 113:1, 127:3, 139:8, 139:12, 140:5, 141:18, 141:20
typed ^[1] - 102:13
types ^[8] - 19:21, 19:22, 25:8, 25:9, 64:8, 97:11, 136:10, 139:20
typical ^[1] - 10:13
typically ^[5] - 5:24, 15:3, 15:23, 21:19, 59:25

U

under ^[19] - 10:22, 14:4, 51:14, 53:18, 54:1, 54:7, 70:22, 79:16, 80:5, 80:9, 80:17, 80:23, 93:12, 101:20, 105:2,

105:19, 111:2, 112:10, 145:25
underscored ^[1] - 121:9
understood ^[7] - 18:16, 39:3, 72:11, 78:22, 126:16, 128:4, 129:8
undisputed ^[1] - 46:15
undo ^[1] - 133:4
unequivocal ^[3] - 45:2, 78:3, 108:15
unfairly ^[1] - 5:10
unfortunately ^[1] - 39:1
unintended ^[1] - 22:5
unintentional ^[1] - 129:25
unintentionally ^[1] - 125:3
unique ^[5] - 24:14, 25:5, 25:7, 25:10, 33:20
unit ^[1] - 27:23
UNITED ^[1] - 2:22
UNITED ^[2] - 1:1, 1:18
universally ^[1] - 145:4
unless ^[5] - 24:7, 71:11, 85:8, 91:22, 133:17
unnecessary ^[1] - 117:13
unusual ^[1] - 16:3
unwanted ^[1] - 28:20
up ^[60] - 7:24, 10:19, 19:25, 20:5, 26:4, 28:17, 31:12, 33:1, 35:15, 36:12, 36:25, 38:22, 41:13, 45:11, 46:1, 47:13, 48:20, 50:15, 50:25, 52:3, 53:10, 55:11, 68:5, 70:18, 72:2, 72:22, 77:2, 77:3, 79:20, 80:23, 83:14, 83:21, 83:25, 85:12, 87:11, 87:17, 89:6, 92:16, 92:25, 102:2, 109:7, 109:24, 113:17, 114:8, 115:8, 116:14, 117:25, 121:6, 121:19, 122:2, 124:14, 129:24, 130:12, 131:6, 131:22, 133:2, 133:16, 133:25, 135:3, 143:5
urge ^[1] - 32:7
USC ^[2] - 6:15, 8:1
uses ^[23] - 39:19, 40:7, 41:5, 41:15, 43:5, 50:13, 55:16, 73:23, 74:23, 96:14, 101:4, 101:8, 102:19, 103:2, 104:2, 108:3, 109:16, 115:6, 115:25, 117:3, 121:13, 127:2, 127:3

V

valid ^[1] - 26:7
value ^[2] - 86:15, 86:18
variances ^[5] - 74:12, 75:11, 77:4, 82:8, 87:23
variation ^[5] - 23:11, 42:4, 73:11, 99:7, 132:5
variations ^[33] - 22:25, 23:4, 31:24, 32:5, 32:6, 42:5, 63:2, 63:20, 75:13, 75:17, 82:10, 83:22, 84:12, 94:8, 99:8, 99:9, 99:12, 100:17, 101:4, 101:6, 103:15, 130:18, 130:19, 131:14, 132:4, 132:6, 132:11, 132:15, 133:10
varies ^[3] - 96:9, 101:17, 111:20
variety ^[3] - 8:19, 24:21, 64:13
various ^[7] - 96:6, 98:6, 106:20, 114:15,

<p>117:3, 119:8, 135:18 vary ^[1] - 64:4 versa ^[1] - 19:20 version ^[6] - 91:17, 127:7, 127:10, 128:8, 128:17, 128:22 versus ^[1] - 3:4 vexed ^[1] - 26:1 via ^[9] - 25:18, 31:17, 43:9, 50:18, 58:13, 75:4, 75:23, 123:18, 123:19 vice ^[1] - 19:20 view ^[2] - 32:9, 124:4 viewed ^[1] - 17:24 viewing ^[1] - 27:21 violation ^[1] - 54:9 Voice ^[1] - 46:8 volatile ^[11] - 135:25, 138:21, 141:25, 144:6, 144:15, 144:17, 144:21, 145:1, 145:5, 145:17, 145:20 volt ^[1] - 20:2 voltage ^[145] - 4:9, 14:19, 16:13, 19:8, 19:10, 19:11, 19:19, 20:11, 20:15, 22:5, 22:6, 22:7, 22:10, 22:12, 22:13, 23:13, 23:20, 24:20, 25:20, 26:22, 27:20, 28:5, 28:13, 28:17, 28:20, 28:21, 37:7, 37:9, 37:19, 38:10, 38:11, 39:9, 39:25, 40:2, 40:4, 40:5, 41:9, 41:14, 42:7, 42:19, 42:21, 42:22, 42:23, 44:5, 44:17, 44:22, 46:16, 46:20, 47:4, 48:7, 48:11, 48:13, 48:15, 48:16, 48:17, 48:22, 48:24, 49:1, 49:4, 49:5, 49:8, 49:10, 49:17, 49:18, 49:20, 49:22, 50:1, 50:2, 50:3, 50:4, 50:7, 51:6, 53:12, 53:19, 53:20, 53:22, 53:23, 53:24, 54:4, 55:19, 55:20, 55:21, 56:21, 61:16, 61:20, 61:22, 61:24, 62:13, 62:23, 63:1, 63:7, 63:22, 63:25, 64:4, 65:2, 65:15, 66:2, 66:4, 66:7, 66:8, 66:9, 66:10, 66:14, 66:18, 67:1, 67:2, 67:12, 67:22, 68:2, 68:4, 68:5, 68:7, 68:24, 69:2, 69:4, 71:18, 73:3, 74:19, 75:6, 78:6, 79:3, 80:15, 81:24, 82:25, 84:19, 88:1, 93:3, 93:11, 97:2, 111:14, 117:6, 120:12, 141:15, 143:18 volts ^[2] - 20:2, 20:3 vs ^[1] - 1:5</p>	<p>44:9, 63:23, 69:15, 86:25 website ^[1] - 109:9 websites ^[1] - 102:17 weigh ^[1] - 130:4 weighs ^[1] - 126:10 welcome ^[2] - 3:2, 3:17 well-established ^[1] - 51:22 whatnot ^[1] - 11:24 whatsoever ^[1] - 70:23 wheat ^[1] - 6:2 whereas ^[1] - 60:9 wherein ^[1] - 52:13 whichever ^[1] - 128:14 whole ^[7] - 49:6, 49:23, 52:21, 55:9, 87:8, 91:12, 99:19 wide ^[1] - 64:13 width ^[11] - 80:6, 80:7, 80:14, 83:3, 86:22, 86:24, 93:4, 93:7, 93:13, 94:9, 94:14 Wilmer ^[3] - 2:13, 2:16, 3:15 witness ^[1] - 46:5 word ^[24] - 12:2, 15:14, 26:20, 26:25, 33:9, 33:11, 53:17, 78:19, 81:23, 81:25, 82:1, 98:21, 108:3, 112:12, 116:1, 117:3, 121:9, 121:21, 121:24, 123:3, 127:2, 128:3, 138:18 words ^[12] - 25:21, 26:21, 33:5, 33:6, 33:7, 51:16, 87:24, 100:25, 101:22, 108:17, 125:14, 144:2 works ^[1] - 58:7 wreck ^[1] - 63:22 wrench ^[1] - 137:2 Wright ^[3] - 2:6, 3:12, 70:5 write ^[6] - 30:2, 39:1, 61:5, 136:11, 137:22, 142:16 writes ^[1] - 134:18 writing ^[4] - 138:1, 138:2, 142:24, 142:25 written ^[5] - 8:20, 62:5, 62:20, 64:23, 136:9 wrote ^[1] - 121:24</p>
W	Y
<p>walk ^[5] - 38:13, 38:24, 38:25, 51:25, 74:25 walked ^[1] - 54:21 WALKER ^[1] - 147:12 Walker ^[2] - 2:21, 147:11 wants ^[6] - 9:20, 24:4, 28:9, 61:14, 68:7, 137:21 Washington ^[1] - 2:17 water ^[3] - 67:3, 67:4, 67:12 wavy ^[1] - 67:15 ways ^[8] - 16:8, 22:13, 40:16, 44:4,</p>	<p>years ^[3] - 17:14, 36:20 yellow ^[1] - 79:24 yesterday ^[22] - 5:3, 9:6, 10:2, 14:17, 16:15, 18:19, 18:20, 19:17, 27:18, 30:18, 35:14, 41:4, 41:11, 43:15, 49:24, 50:2, 73:24, 79:21, 79:24, 80:13, 105:7</p>
	Z
	<p>zero ^[1] - 67:1 ZUBLER ^[3] - 139:3, 145:14, 145:16 Zubler ^[5] - 2:15, 3:15, 34:21, 133:21, 139:3</p>